Occupational HAZARDS

THERE'S PROFIT IN PREVENTION

OVEMBER
1948

OUTE TO
UR PLANT
PROTECTION
: ARTICLES
ON FIRE
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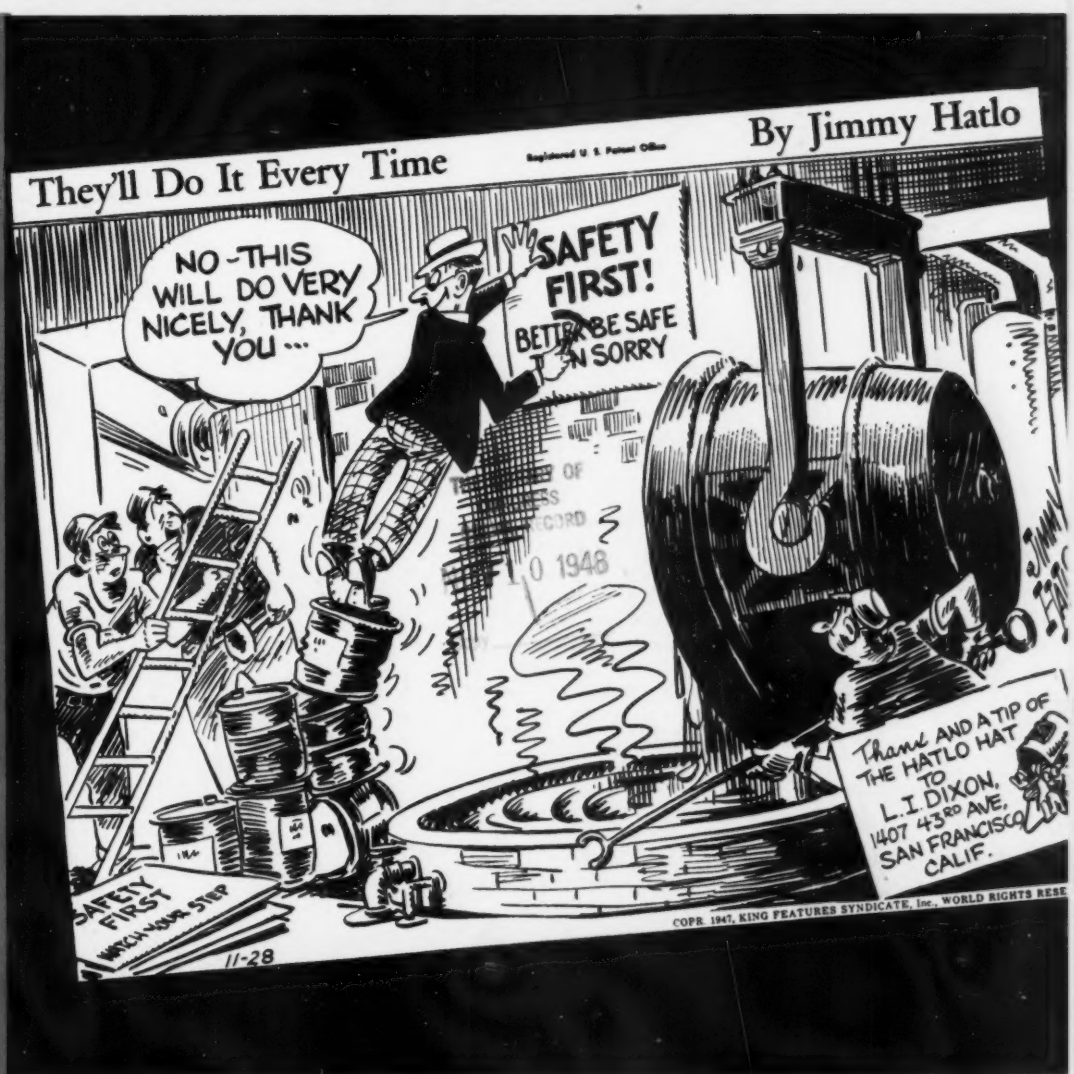
INDUSTRY


They'll Do It Every Time
By Jimmy Hatlo
NO - THIS WILL DO VERY NICELY, THANK YOU ...
SAFETY FIRST!
BETTER BE SAFE THAN SORRY
SAFETY FIRST
WATCH YOUR STEP
11-28
Thanks AND A TIP OF THE HATLO HAT TO L. I. DIXON, 1407 43RD AVE, SAN FRANCISCO, CALIF.
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IN THIS ISSUE:

. . . CARTOONS FOR SAFETY . . .
A PUBLISHER LOOKS AT THE NAVY
. . . CASH SICKNESS PLAN . . .

...for sand handling equipment in modern aluminum foundry!

SAND IN ITS PLACE is alright, but not when it floats in your plant . . . falling on valuable equipment . . . causing wear and health hazards. In modern foundries, like that of Nylen Products Co., St. Joseph, Michigan, the dust raised by sand handling equipment is put in its place by a KIRK & BLUM Dust Collecting System.

Nylen Products Co. manufacturers of aluminum pistons and pins, uses large amounts of sand in the casting processes. The photo looking up into the sand tower shows the streamlined type Kirk & Blum fittings which promote top efficiency in air and dust handling.

The experience of more than 40 years and the talents of many engineers go into the design and installation of every KIRK & BLUM System. KIRK & BLUM Engineers will gladly provide an expert, no-obligation survey of your dust collecting problems and needs. Write for Descriptive Booklet M, "Dust Collecting Systems in Metal Industries." The Kirk & Blum Mfg. Company, 2802 Spring Grove Ave., Cincinnati 25, Ohio.

FOR CLEAN AIR... THE INVISIBLE TOOL

KIRK AND BLUM

DUST CONTROL SYSTEMS

Masterful Skill Creates Excellence

PAXLANOSAV EMOLLIENT HELPS PRESERVE THE NATURAL ACID MANTLE OF THE SKIN!

PAXLANOSAV EMOLLIENT was developed in our Research Laboratory after years of intensive research. It is superior to lanolin alone because it skillfully combines generous quantities of lanolin PLUS other fine skin normalizers making PAXLANOSAV EMOLLIENT more effective in a skin cleanser. Integrated into PAXLANOSAV HEAVY DUTY Granulated Skin Cleanser in abundant quantity, PAXLANOSAV EMOLLIENT helps to protect the natural acid mantle of the skin during the wash. Skillful formulation of PAXLANOSAV HEAVY DUTY Granulated Skin Cleanser, remarkable cleansing ability, quick profuse suds and great bulk assure exceptional economy together with real satisfaction in use. Because it always stays free-flowing it may be used in the usual commercial dispenser for powdered soap.

Masterful skill is ageless, whether in the arts, science or industry. It is for this reason that PAX guards constantly, through continuous research, a nationally acknowledged reputation for outstanding skill in producing PAXLANOSAV HEAVY DUTY, consistently uniform in highest quality, unexcelled safety, exceptional cleansing ability and use economy. It is serving the hand cleansing needs of increasing millions of satisfied workers year after year.

PAXLANOSAV HEAVY DUTY GRANULATED SKIN CLEANSER

There is Nothing Finer For All General Occupational Skin Cleansing

PAXLANOSAV* — a superior skin emollient combining lanolin and other special skin normalizers.

48-K

ADVERTISED IN AMERICAN MEDICAL ASSOCIATION PUBLICATIONS

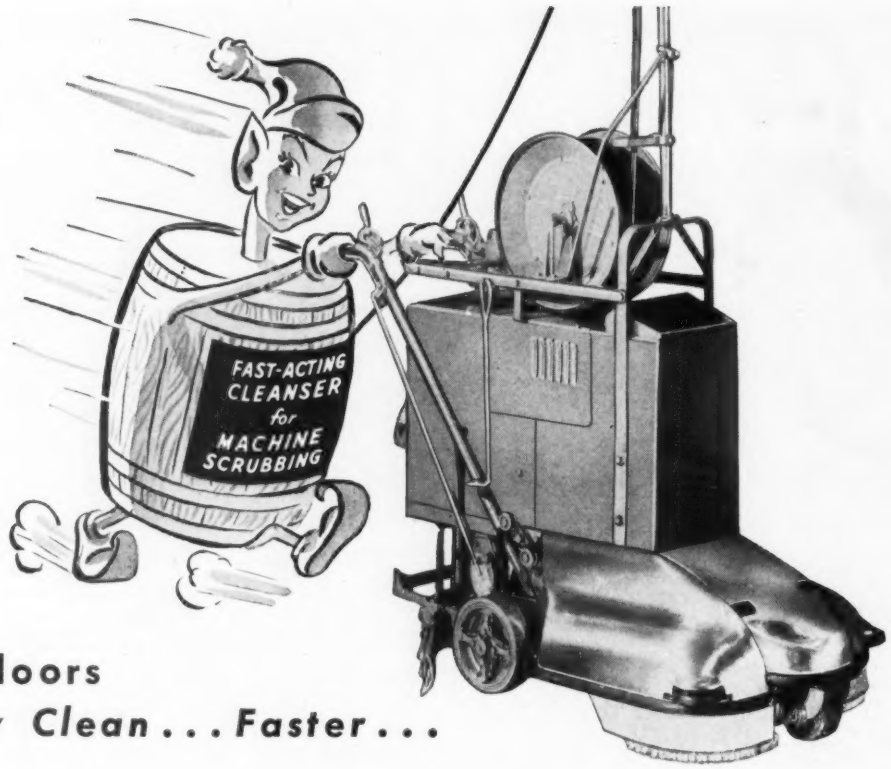
G. H. PACKWOOD MANUFACTURING CO. • 1545-55 TOWER GROVE AVE. • ST. LOUIS 10, MO.

Manufacturers of Fine Industrial Skin Cleansers

® Trademark Reg. U. S. Pat. Off.

* Trade of G. H. Packwood Mfg. Co.

If you do not require a skin cleanser containing an emollient then order either PAX HYSPEED (Duramen-Meal* Scrubber) or PAX CORN-TEX (Corn-Meal Scrubber) or PAX MECHANICS (Combination Scrubber) which are national but inexpensive leaders among all granulated hand soaps made without an emollient.



Get Floors
Really Clean . . . Faster . . .

TEAM UP Your Scrubber with a Cleanser that's *MADE* for It!

The greater speed of mechanical scrubbing requires the use of a cleanser that keeps pace with the speed of the machine. Cleansers designed for hand-scrubbing cannot be expected to give the fast cleaning action required for machine-scrubbing. In an attempt to get floors thoroughly clean, the operator of a scrubbing machine using a slow-acting cleanser may resort to prolonged brush action, but that needlessly piles up mileage on the machine, increases labor costs, and prematurely wears out the brushes.

To utilize the full cleaning capacity of your scrubbing machine—to get floors *film-free clean* in minimum time—choose a cleanser that's specially made for machine-scrubbing. *All Finnell Cleansers are.* And there's a type for every need, including *Setol,* the mineral oil solvent for cleaning oily wood floors, and *Finola, the Original Scouring Powder,* for heavy duty scrubbing of smooth, hard-surface floors.

The *Finnell Machine* illustrated above is a *Self-Propelled Scrubber-Vacuum* designed for use on large-area floors. This *Finnell* applies the cleanser, scrubs, rinses if required, and picks up. Cleans up to 8,750 sq. ft. per hour!

The *nearby Finnell man* is readily available to help train your maintenance operators in the proper use of *Finnell Equipment* and *Supplies.* For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 3511 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

Everything FINNELL for Floor Care

FINNELL SYSTEM, INC.
Pioneers and Specialists in
FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

Occupational HAZARDS

VOLUME 11 • No. 1

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"THERE'S PROFIT IN PREVENTION"

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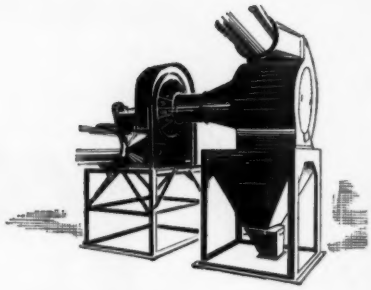
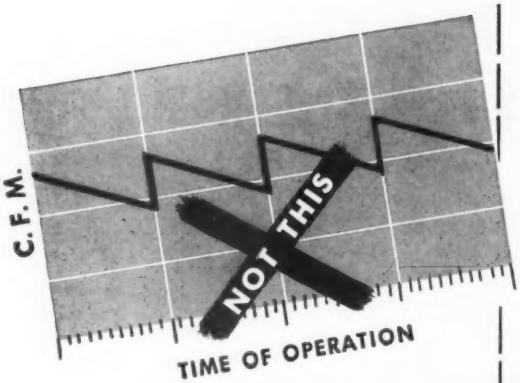
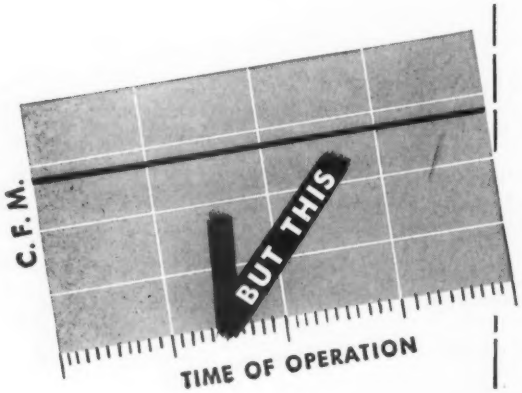
Continuous dust control demands constant air volume



Roto-Clone's uniform air delivery assures constant effective control at dust source





THE two charts at left tell an important story. The one above shows how rapidly air volume declines as ordinary type collectors become clogged with dust. Result—constantly varying exhaust volume with parallel variations in effectiveness of control at point of dust generation.

Now examine the chart below. This is a Roto-Clone* at work. Constant air volume is exhausted hour after hour, day in and day out. Continuous high efficiency dust collection is assured without a minute's time out for unit maintenance.

The Roto-Clone method of dust control applies centrifugal and dynamic forces in combination to remove the dust particles from the air stream. There are no collecting elements to clog or clean. Dust is discharged automatically for easy removal without interference to operation.

If you want to put dust control on a continuous high efficiency basis, you will want to put Roto-Clone with its small space requirements on the job. There's a type and size for every service. For complete information, contact your local AAF representative or write direct for copy of Bulletin No. 270-A.

**Roto-Clone is the trade-mark (Reg. U. S. Pat. Off.) of the American Air Filter Company, Inc., for various dust collectors of the dynamic precipitator and hydro-static precicipitator types.*

AMERICAN AIR FILTER CO., INC.
366 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF
ROTO-CLONE®
DUST CONTROL EQUIPMENT

...Insure Worker's Feet in Sure Protection

Give your workers

HY-TEST ANCHOR FLANGE Safety Shoes for Christmas

HY-TEST SAFETY SHOES

THE WORLD'S LARGEST SELLING SAFETY SHOE

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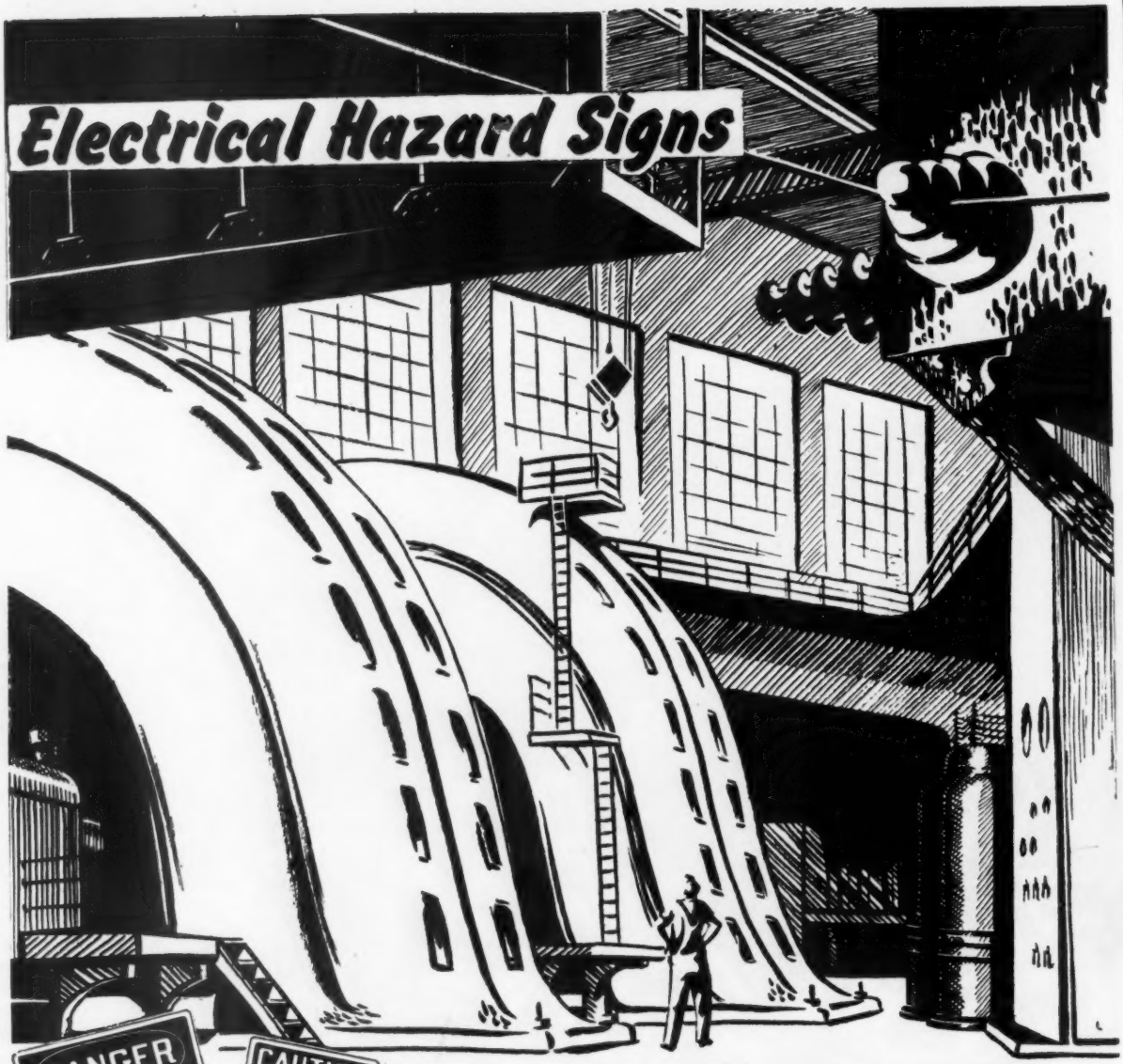

When harnessed to serve Industry, Electricity is a powerful giant. To those who respect its punch

STONEHOUSE SIGNS

FOR ACCIDENT PREVENTION

prove a strong reminder. But for the men who forget, these signs stand guard 24 hours a day, constantly urging them to be careful . . . to take no chances.

DANGER HIGH VOLTAGE

CAUTION DO NOT USE ON ELECTRICAL FIRES

ALL WIRES SHOULD BE CONSIDERED DANGEROUS WIRES MUST ONLY BE HANDLED BY THOSE WHOSE DUTIES REQUIRE THEM TO DO SO

DANGER HIGH VOLTAGE KEEP AWAY

DANGER MAN WORKING ON LINE — DON'T — THROW SWITCH

DANGER 13,200 VOLTS

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MANUFACTURERS

Stonehouse Catalog No. 8 shows many Electrical Hazard signs. It's Free on request.

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ACCIDENT PREVENTION SIGNS IN STANDARD COLORS AND DESIGNS

Iron Age

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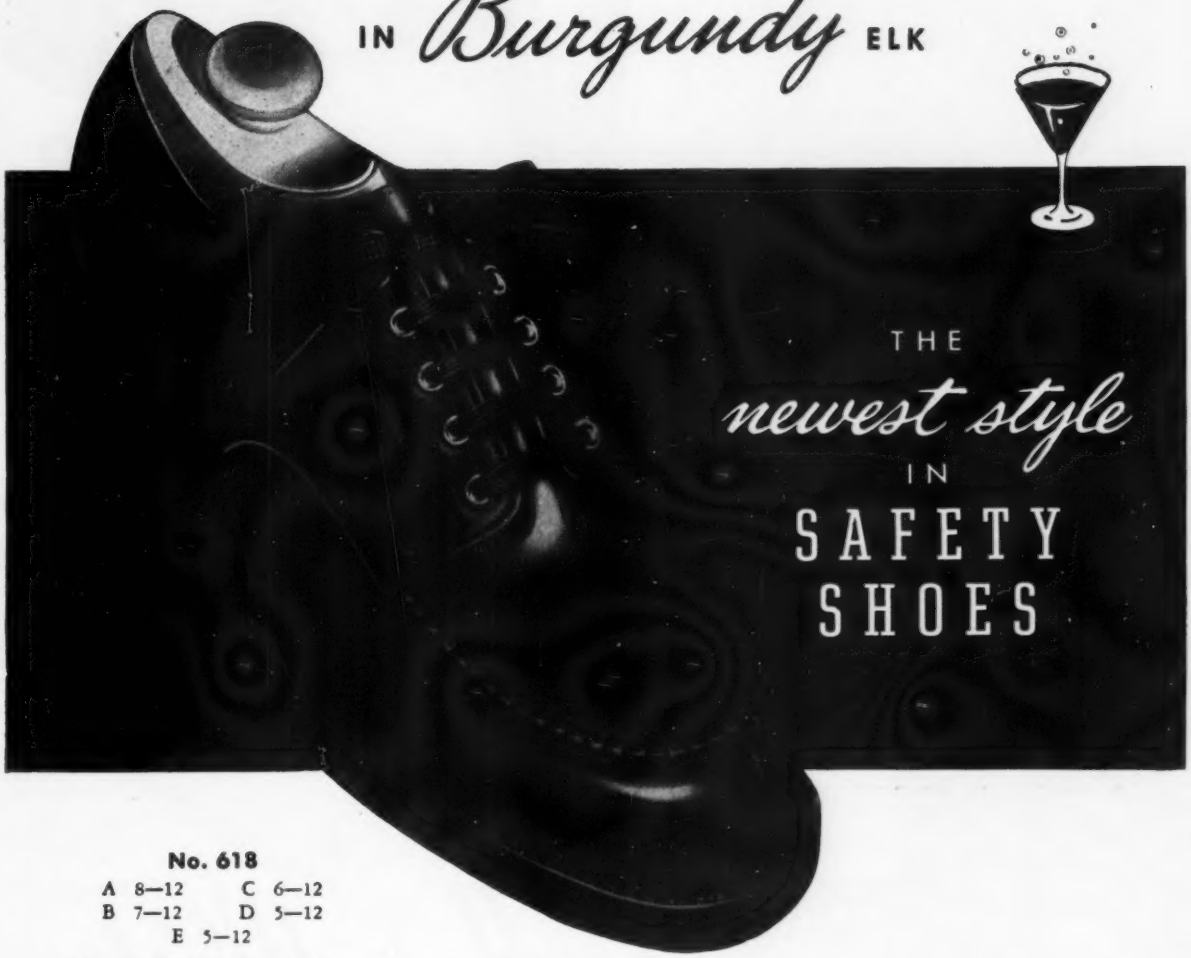
IN *Burgundy* ELK



THE *newest style* IN SAFETY SHOES

No. 618

A	8—12	C	6—12
B	7—12	D	5—12
		E	5—12

The complete line of over 30 Iron Age styles is described in our Catalog No. 50. Write for your copy today.

Iron Age

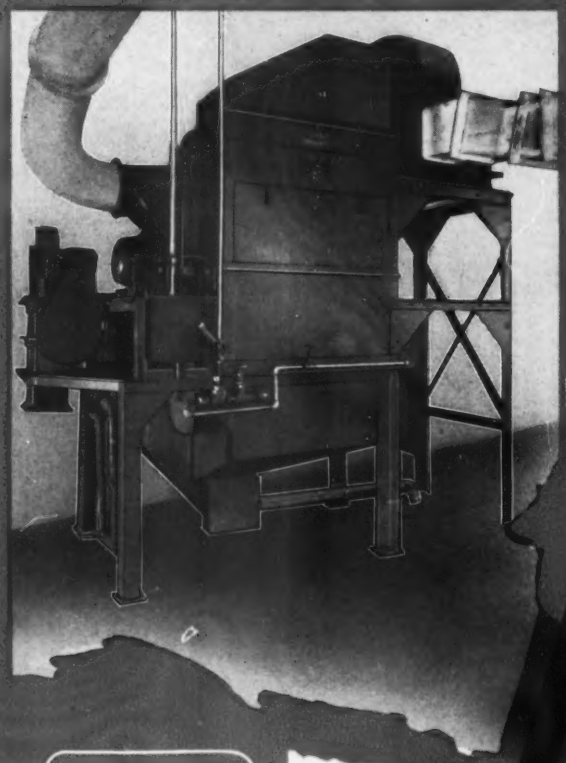
The Safety Shoe for Industrial America

Take the season's newest color for shoes—ruby-rich burgundy . . . . and the season's smartest style—the moccasin oxford. Mold this combination around an exclusive Iron Age last in soft pliable elk. Now you've got the season's most popular safety shoe!

Designed for the style-conscious men in industry, this Iron Age moccasin oxford provides the wearer with dress smartness *plus* the hidden protection of a steel safety toe box. Has long wearing "Leatherplus" outsoles, an Iron Age exclusive. First quality rubber heels. Sizes as shown above. Let us fill your stock requirements . . . . and don't underestimate your needs. This Iron Age style sells on sight!

Iron Age DIVISION

H. CHILDS & CO., INC. PITTSBURGH 22, PA.



see our CATALOG in SWEET'S FILE MECHANICAL INDUSTRIES

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first

to DEVELOP and IMPROVE standard methods of collecting DUST & harmful FUMES with Efficiency and Safety!

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INCORPORATED

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17904 Ryan Road, Detroit 12, Mich.

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- ☐ Please send your latest literature

We are interested in:

- ☐ A complete finishing system
- ☐ Metal parts washers
- ☐ Paint spray booths
- ☐ Drying and baking ovens

Signed _____ Company _____

Address _____

it's NEW

it's MORE COMFORTABLE

it's RUGGED

Heavy Duty Glove

AO 5X264

Feel it, test it, wear it and you'll see why this latest addition to the AO steel stapled line is ideal for handling small castings, rough stock, grinding and similar work.

Made of specially treated chrome tanned cowhide leather for long wear, the glove features a canvas back with elastic strap to overcome hand fatigue while providing a cooler feeling and snug fit.

All seams are steel sewed and the seam along the forefinger has been eliminated for longer glove life and added comfort at this vulnerable point.

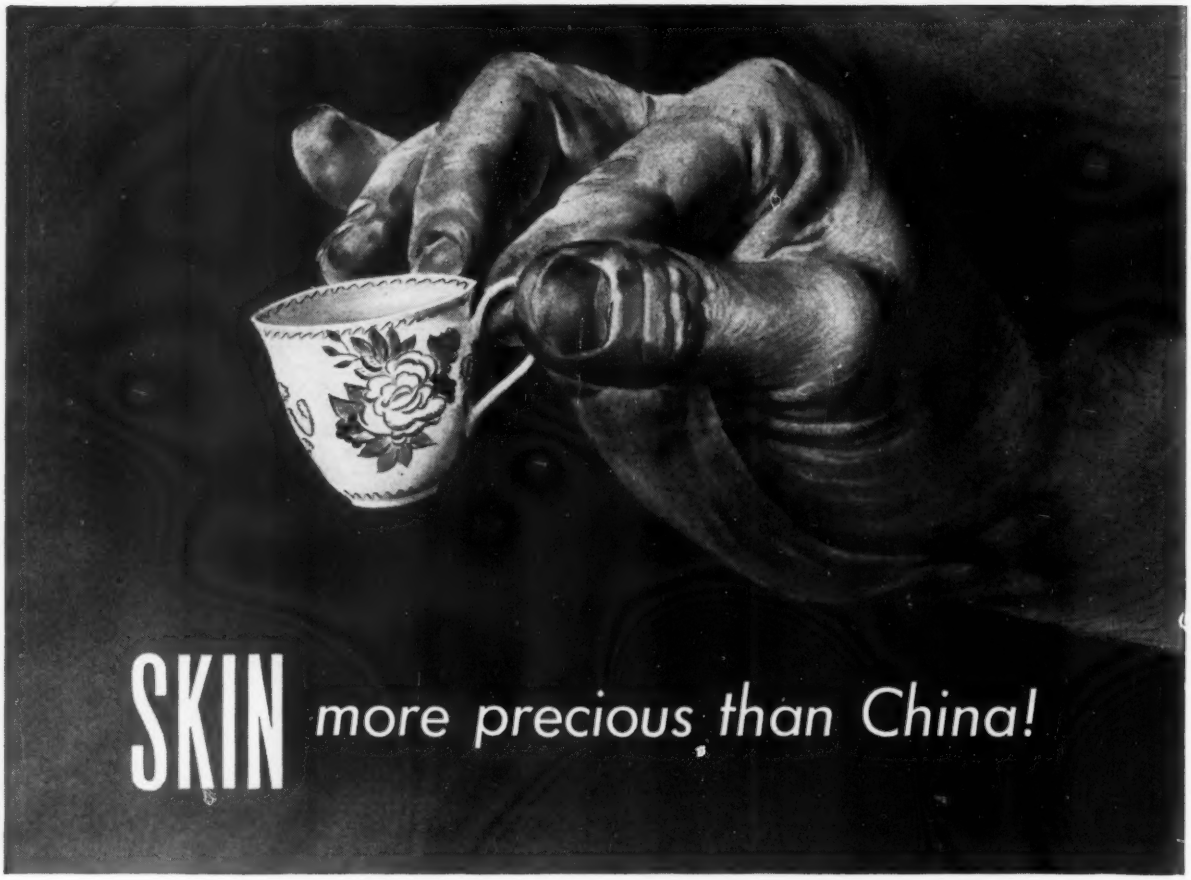
Wearing surface of the palm has also been increased by extending the palm — no bib patch — another comfort feature.

The steel stapled strap at the thumb crotch fortifies one of the weakest parts of a glove. There is a steel stapled patch on face of thumb and a short cufflex cuff with tape binding.

You'll lower your glove costs with the 5X264 —ask your AO Safety Representative or inquire at your nearest AO Branch Office.

American Optical Company
Safety Division

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES



They're more precious to industry than all the china in the universe. But like china, workers' hands are readily vulnerable to damage. Skin-injuring industrial operations and chemical irritants in your plant see to *that!*

While you can't always avoid exposure to these dangers, you *can* help safeguard skin against the ailments caused by them. Simply have your workers gently rub the proper West Protective Cream on their skin before they start work. Thus, they are assured of *safe, smooth, lasting protection.*

Since they are scientifically prepared, industry everywhere finds West Protective Creams effective precautions against nearly every dermatitis hazard that comes to mind. These creams come in six different types—and either penetrate the skin or remain on the surface—according to the special type of protection required.

To keep your workers safer on the job—and production efficiency up—consult one of almost 500 trained West Representatives from coast-to-coast. He's fully qualified to explain the advantages of these highly effective West Protective Creams.

Send for Free Chart

PRODUCTS THAT PROMOTE SANITATION

WEST DISINFECTING Company

42-16 West Street, Long Island City 1, N. Y.

there's NO SECRET

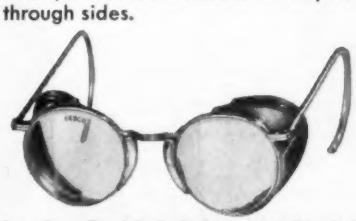
about the SUCCESS *of* *New* CESCO SPECTACLE GOGGLES

THEY DISPLAY 5 POINTS OF SUPERIORITY

Sideshield Comfort-Bridge Spectacle No. 380 protects the eyes from all angles.

Popular Comfort-Bridge Spectacle No. 374, for maximum safety where frontal protection only is required.

Transparent Sideshield Model No. 385 permits discernment of objects through sides.



Leather Padded Sideshield Model No. 390 for added comfort where heat is encountered.

1 • **GREATER PROTECTION** with the eye orbit and entire nose-bridge area sealed against entrance of foreign particles. CESCO *Comfort-Bridge* Spectacles are equipped with CESCO SUPER-SAFETY lenses, guaranteed to exceed federal specifications. Antiglare lenses are also available.

2 • **GREATER DURABILITY,** with shock-proof, reinforced frames that defy even rough treatment.

3 • **BETTER LOOKING,** with modern design that appeals to both men and women workers.

4 • **MORE EXACT FIT**—available in a selection of 3 bridge widths and lens sizes. Easily adjustable temples.

PLUS

5 • **GREATER COMFORT**—featuring the exclusive CESCO *Comfort Bridge*. Broad-bearing jumbo bridge pads distribute the weight of the goggle evenly across the nose. Balanced suspension means the goggle frame virtually "floats" in the correct and most comfortable position.

Wherever Spectacle-type goggles are needed, you may be sure the New CESCO *Comfort-Bridge* Goggles meet all requirements.

***New* CESCO Catalog available too!** *See the complete line of CESCO Spectacle-Type Goggles—and over 150 other protective items. If you do not yet have this guide to industrial safety, write for your copy now.*

CHICAGO EYE SHIELD CO. • 2308 Warren Boulevard • Chicago 12, Illinois

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● *See the complete Lehigh line of Rubber and Leather Safety Boots and Shoes. Send for new catalogs Rubber #15 and Leather #14 today.*

General Industrial Safety Boot for indoors and out. Long service and maximum toe-protection on any wet industrial job.

3 LENGTHS

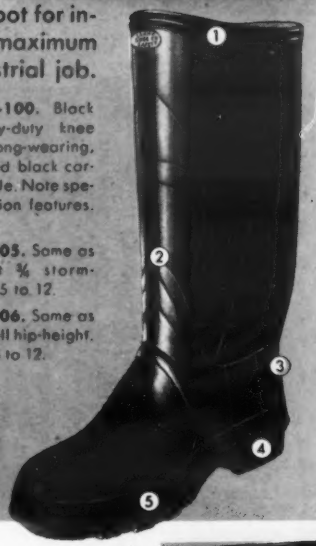
1. Knee-Height
2. ¾ Storm-Height
3. Full Hip-Height

Rubber reinforcement at knee prevents cracks, leakage, common at this point.

Stock No. L-100. Black rubber heavy-duty knee boot with long-wearing, heavy, pleated black carbon-rubber sole. Note special construction features. Sizes 5 to 13.

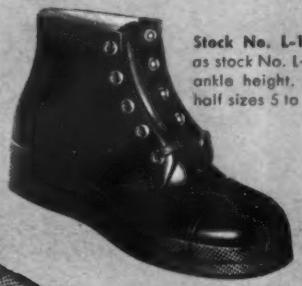
Stock No. L-105. Same as L-100 except ¾ storm-height. Sizes 5 to 12.

Stock No. L-106. Same as L-100 except full hip-height. Whole sizes 6 to 12.



"PAR-GRIP*" Safety Boots and Shoes. Long, safe service in milk plants, dairies, meat-packing plants or any slippery floor.

Stock No. L-1113. Top-quality, heavy-duty, black rubber knee boot. Whole sizes 6 to 12.



Stock No. L-1114. Same as stock No. L-1113 except ankle height. Whole and half sizes 5 to 12.

SKID-PROOF "PAR-GRIP" SAFETY SOLE*

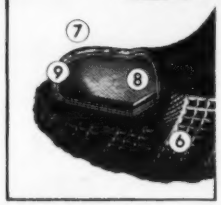
—one flat piece from heel to toe. Doubles effective traction area! Deep, diamond-shaped, flexible rubber cups grip wet floors like a plunger.

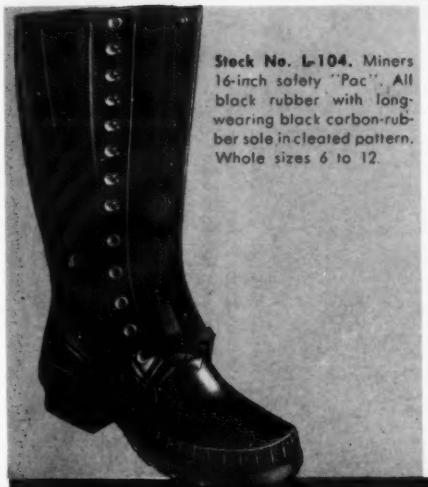
NEOPRENE-SPRAYED THROUGHOUT TO RESIST CORROSIVE ACTION OF FAT, GREASE OR OIL

CHECK THESE LEHIGH "STRONG POINTS"

1. *Strong binding or rolled top can't tear.*
2. *"Layered" Construction wears longer.*
3. *Reinforced counter fits heel; won't chafe.*
4. *Wide, moulded rubber heel wears longer.*
5. *Sole double-vulcanized to upper. Can't tear loose.*
6. *Rugged sole with heavy cleated pattern.*
7. *Heavy rubber toe cap over steel toe box.*
8. *Extra-heavy sweat-proof duck lining.*
9. *The famous **Lockrim** Steel toe box . . . in all Lehigh rubber Safety Footwear.*

*T. M Reg.





Stock No. L-104. Miners 16-inch safety "Pac". All black rubber with long-wearing black carbon-rubber sole in cleated pattern. Whole sizes 6 to 12.

New

Stock No. L-109. Same as L-104 except 10-inch height. Whole sizes 5 to 12.

Stock No. L-110. Ankle boot for chemical plants, meat-packing plants, and general utility. Black, all-rubber blucher-shoe. Strongly reinforced. Whole and half sizes 5 to 13.

LEHIGH SAFETY SHOE COMPANY
ALLENTOWN, PA.

Division of the ENDICOTT JOHNSON CORPORATION

COLD WAR, HOT WAR, OR NO WAR?

A few weeks ago I had the rare opportunity of spending almost a month with the Mediterranean Fleet as a guest of the Navy. You may imagine that it was a thrill and a most unusual experience.

Among many outstanding things evident on a trip of that kind, I think the most outstanding is the interdependence of Naval operations and American industry. Just because there is no active war being waged, just because factories are not bulging with war orders, it does not mean that the Navy does not need industry nor that industry does not need the Navy.

Because of generations of isolationist thinking, we Americans have a hard time getting used to the idea that our frontiers are in the Mediterranean, or in the Far East, or in South America. Global thinking does not come natural to us yet, but we are gradually getting accustomed to the idea.

Global frontiers mean global protective forces. Global protective forces—the Army, Navy and Air Force—require new concepts in supply techniques, in maintenance methods, in food preservation methods.

Because of political considerations, no foreign country may grant us bases for the repair, maintenance or supply of our ships. The best they can do is to let us use some of their harbors a few days at a time. This means, then, that when one of our supply ships starts to transfer supplies it must do it with an absolute minimum of confusion and mistakes. Important supplies must be delivered to the right place at the right time, and inasmuch as the Fleet is not a static force but, rather, one which moves around from harbor to harbor, this is not always easy.

Inasmuch as our organization publishes magazines in a number of industries, my interest in the operation of the Sixth Task Fleet extended beyond supply and material handling problems, although those are probably the biggest.

The intricate job of supply must be done with the greatest possible dispatch. The job of supplying an entire fleet like the Sixth Task Force, as the Mediterranean Fleet is officially called, from supply ships, is one which calls for the most

LEHIGH SAFETY SHOE COMPANY
ALLENTOWN, PA.
ENDICOTT
CORPORATION

advanced material handling methods. The thousand-and-one things required by a fleet must be kept in ample supply at all times. These are matters that have engaged the attention of readers of our magazine FLOW.

As publishers of INDUSTRY and WELDING, I was much interested in the maintenance operations aboard every ship. Fleet operations, with all the practice exercises and regular sea duties, is wearing on every ship in the force. Without the liberal use of welding, it would be much more difficult, if not impossible to keep combat vessels at sea for months at a time, unless there was a continuing repair program. And, of course, welding lends itself perfectly to these requirements because it is the perfect maintenance tool.

Because we publish THE REFRIGERATION INDUSTRY, my interest in food preservation was particularly active. The food aboard ship is excellent, qualitatively and quantitatively. Shore establishments cannot hope to supply the vast quantities of food required for a Fleet operation so, again, the supply ship does its stuff. But there is the additional problem of preservation. Again, without refrigeration the operation of the Sixth Task Fleet would be impossible.

The modern combat vessel is one of the most intricate pieces of machinery man has ever conceived. In it are used the latest developments in electronics, hydraulics and pneumatics, subjects of our magazine, APPLIED HYDRAULICS. It is a veritable nest of servomechanisms operating everything from the Number 1 gun turret in the forepart of the ship to the rudder mechanism in the stern. Much of our present day development in hydraulics has come from naval vessels and industry is indebted to the Navy for the experimental work which has been carried out in our Arsenal in this whole field.

Wherever there is a naval vessel there are hundreds of Navy men, living and working together in comparatively cramped quarters. Inasmuch as a naval vessel is in itself a small factory, the men are subject to all the accident and industrial health exposures of any worker in industry. Whether to protect the men from the excessive use of paint in confined quarters, or from using the lathe in the ship's machine shop, there must be the same industrial safety precautions taken that are found in the most modern plant. As publisher of OCCUPATIONAL HAZARDS, that interested me.

Thus, every industry must contribute to keep our ships at sea, our planes in the air, and our troops in foreign trouble-spots. There can be no letup now or in the foreseeable future because it does not look as though there will be any letup in the cold war. I do not believe there will be a hot war.

The greatest reason, in my view, for believing that there will be no war is the fact that we are better prepared for war than we have ever been before in peace time. This fact is the best insurance against war. Traditionally and historically America will not seek war. If we are ready, no other nation will dare to provoke us.

Thus, industry, the secondary defense line of our armed forces, must play a signal and important part in keeping us out of war. Industry must so integrate itself into the needs of our highly technical defense arms that there will be no active war. Industry must help to wage this constant war of preparedness which may cost dollars but will not cost lives or bring the death of our cherished democratic institutions.

Irving B. Hexter

CARTOONS WIN FRIENDS FOR SAFETY

by
J. D. BARSTOW
Art Division
General Electric Company
Schenectady, N. Y.

ASK ANY of the employees in your plant if he likes cartoons in his company publication, and the answer is almost certain to be an enthusiastic "yes". Cartoons and picture stories told with them are one of the types of reading material that most people like best and remember longest.

This was discovered about a half century ago when the first comic strip became popular, but it was not fully appreciated until recently when the comic book technique, using cartoons to tell a continuous story, whether humorous or not, came into its own. Today it is recognized that this method is one of the most effective ways of reaching a mass audience.

Used industrially, cartoons and comic strips can be one of the most effective mediums working for safety. At General Electric they have been one of the most effective parts of our safety program for the past fifteen years.

So successful, in fact, that the program originally using them has moved into its second phase. Since 1935 Hopeless Hector has made General Electric employees laugh by being the victim of every type accident imaginable. Soon he will be succeeded by Tom Duzwell and Merry Young, hero and heroine, respectively, of a comic strip that will preach safety by showing the things that should be done instead of laughing at the mistakes that cause accidents.

Back in 1935 the strip appeared as a filler in most of our Company publications. It consisted of four stick figures, and the chief action consisted of a careless worker getting hurt. It wasn't funny, but it clicked. Here, it seemed, was a new tool to combat a rising accident record.

Of course, there is nothing funny about a man getting hurt, but unfortunate as it is, most people seem to learn best through their own or somebody else's experience. Therefore, Hector was made the goat.

Hector became the symbol of carelessness throughout General Electric. We gave him a dumb look, because no one but a dumb worker is consistently careless. We electrocuted him, tumbled him over equipment lying

(Please turn to Page 44)

HOPELESS HECTOR
HAPPY LANDINGS (EVERY TIME)
By Jim Barstow 7546
I JUST LOVE THE CIRCUS SMELLS
SO DO I!
THESE CIRCUS PEOPLE SURE HAVE DANGEROUS JOBS.. DON'T THEY?
TSK! TSK! TSK!
YES, BUT YOU'LL NOTICE THEY NEVER TAKE UNNECESSARY CHANCES... PODNAH!

Cooperation and Teamwork

REDUCES LOST TIME AFTER ACCIDENTS

by LUKE CLARK
Safety Supervisor
Bigelow-Sanford Carpet Co., Inc.
Thompsonville, Conn.

HOW to reduce the frequency and severity of accidents is getting more and more of the attention of industrial plant managers. There is increasing study of the ways to reduce accidents, with good results being obtained in many industries.

In our own case, at the Thompsonville, Conn., plant of the Bigelow-Sanford Carpet Company, vigilance has paid off. In the year 1947 our frequency rate went down to 2.26, and we had one period during the year in which we marked up a record 1,743,856 hours without a lost-time accident.

We have no fool-proof formulas. We have analyzed the reasons for this record for the sake of being able to maintain it. Some of the factors to which we assign our lower-than-most frequency rate may be helpful to others.

Fundamentally our safety techniques are no different from those used in other industrial plants. But, we have put heavy emphasis on:

1. Close cooperation between the safety department and the medical department, with dependence for all treatment placed on the plant clinic instead of on departmental first aid stations.
2. Teamwork between the safety supervisor, plant supervision, the union's roving safety committee, and management's departmental safety representatives.

We look upon safety as fine management. Our first effort in reducing lost-time is to get all accidents reported, and to encourage every worker to obtain treatment from the medical department and to continue it.

At the time of his induction, each new worker receives a talk from the safety supervisor. This is followed up by on the job contact by the supervisor and departmental representatives. Foremen, too, encourage reporting of accidents promptly and their treatment. Workers receive compensation for time lost in reporting to the hospital.

We believe that many accidents which would cause no lost-time or little of it become major because of inadequate medical treatment. We also believe that infections are more likely if cuts and minor injuries are treated in the plant. We prefer to get the patient to the medical department where all hospital facilities are available. Even a tiny cut goes to the medical department. Thus, minor injuries are prevented from becoming major ones. If proper treatment is continued on a lost-time accident, the patient will return sooner than he might without treatment.

This philosophy of close cooperation between safety and medical departments has been one of the single most important factors in reducing our lost-time frequency.

In utilizing the services of the plant hospital, we have been able to reduce the rate of absenteeism. It is interesting to note that the number of treatments at the plant hospital has increased over 100 percent since 1941, and we now are furnishing in excess of 30,000 treatments per year. This certainly indicates that the employees realize the need for prompt attention to all injuries.

The hospital is staffed with a plant physician and four nurses. The hospital is open 24 hours for service.

Our plant employs 4,000 persons and it is their individual alertness, ultimately, which has given us our record. During 1947 we had only 16 lost-time accidents, most of which were not severe. In general, we practice safety on the theory that keeping frequency down is an automatic barrier to severity.

The most recent three year averages from "Accidents Facts" show the frequency rate for the textile industry as 11.07 and for the carpet and rug industry as 14.29. This compares with Thompsonville's record

Employees at Bigelow are encouraged to return to the medical department for follow-up treatment of minor injuries. Such practice has cut down lost-time by stopping development of major infections from small wounds.

of 5.79 for the same three years (1944-1945-1946). For the three years ending 1947, the record is 4.7

It is interesting to note that during the months of September and October there were no lost-time accidents. On September 24 and 25 we held a two-day community Open House, during which time some 13,000 persons went through our plant with all departments in normal operation. As much as anything, this was a test of the effectiveness of our educational efforts. Although the presence of crowds of persons in the plant should have been a distraction, promoting carelessness and exhibitionism, it seems not to have been. There were no reportable accidents among either employees or visitors.

Safety at the plant is the responsibility of a full-time supervisor who works with a roving safety committee of three elected annually by the union, and departmental committeemen appointed by management for six months terms.

The safety supervisor plans the program of safety education and accident prevention and sees that it is carried out.

The roving committee makes weekly inspections of the plant, reporting hazards from defective material or equipment to the safety supervisor as well as helping educate individual workers against horseplay and carelessness.

One of the three members of the roving committee is a woman, because of the great number of women employees of the plant. A woman is apt, from a woman's angle, to see hazards that would be overlooked by a man.

The departmental committeemen do a job similar to that of the roving committee, working closely with foremen, who have been educated to give attention to safety as an important factor in the main job of production.

Formal meetings of the safety supervisor with the roving and departmental committees are held monthly. At these meetings, the resident engineer of the insurance company makes a report on his own monthly inspection. The reports of committees get consideration. And the plant physician is present to report his department's work.

We have gone after individual hazards. Now that flooring is becoming available again for the first time since the war, we are replacing worn flooring where needed. A program of modernizing lighting throughout the plant, intended primarily as normal maintenance and to provide proper lighting for production, will also have a bearing on our safety record.

Another aspect of our work is discovering hazards which require mechanical correction. Specific problems are turned over to our mechanical development department where changes in machine operation are called for in the interest of safety.

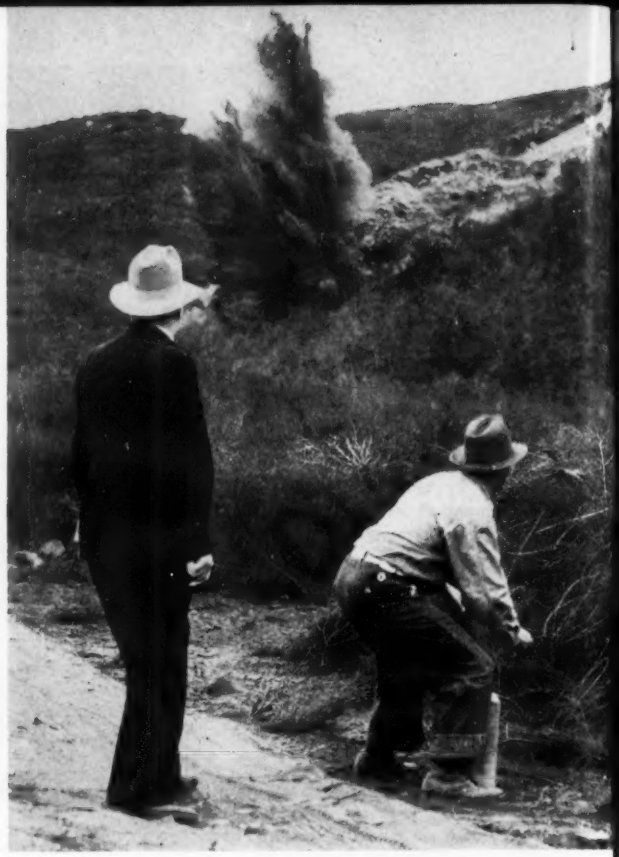
Teamwork between the various persons concerned—the individual worker, supervision, and safety personnel—is obtained by the cumulative results of education.

Another important factor in obtaining it has been the emphasis placed on individual contact and a friendly approach to the subject. We do not scare or bully people. When we encourage some one to report an accident and receive treatment, it is done on the reasonable logic that the worker gains.

Eternal vigilance is our watchword. By emphasizing the features discussed here in what is otherwise a normal industrial safety program, we have gained results. Cooperation has been obtained by a continuing program that puts great importance on repeated personal contact.

Our teamwork is such that not only do safety committees, but individual employees, share the honors for our record.

Here is an article based on the Association of Casualty and Surety Companies' booklet entitled "Your Guide to Safety When Blasting." It is directed to those of you who supervise such operations and outlines some of the rules that have been developed through experience and which are intended to eliminate accidents.



HOW SAFE ARE YOUR BLASTING OPERATIONS?

IN GENERAL, the transportation, handling, storage and use of dynamite or other explosives should be directed and supervised by a person of proven experience and ability in blasting operations. No person under the influence of intoxicants or narcotics should transport, handle or use explosives and close supervision and strict discipline must be maintained.

Storage

Detonators should never be stored in the same magazine with other explosives. Magazines for storage of high explosives should be bullet proof, fire resistant and weather proof, of an approved type and adequately ventilated. Any metal appurtenances used should be of brass or some other non-sparking material.

The booklet points out that shoes with exposed nails or metal plates which are likely to cause friction sparks should not be worn in magazines. Magazines in which explosives are stored should not be used for any other purpose. No metal tools of any description should be kept in magazines.

Cases of explosives should be stored with top side up. Magazines should be kept dry and clean and the area around the magazines posted with appropriate warning signs.

Magazine floors should always be kept clean. Brooms or other utensils used to clean floors should be without any spark producing metal parts.

Explosive containers should be opened, packed or repacked only at a distance of at least 50 feet from any magazine and no package should be returned until it has been securely closed again.

No smoking, matches, firearms, open flames, or any flame or spark producing device, should be permitted in or adjacent to any magazine.

Cartridges with detonators attached should not be taken into a magazine containing other explosives, nor should open boxes of explosives be left in a magazine. All magazines in which explosives are stored should be located at a distance from buildings, railroads and highways in conformance with the table on page 32.

Transportation

All trucks should be in charge of and operated by a person who is physically fit, reliable, able to read and write the English language, not under the influence of, or addicted to the use of intoxicants or narcotics and not less than 21 years old.

All trucks used for the transportation of explosives should be marked or placarded on both sides and ends with the word "Explosives" in letters not less than 3 inches high or should conspicuously display a red flag not less than 24 inches square, marked with the word "Danger" in white letters not less than 6 inches high.

Trucks used for transportation of explosives must not be loaded beyond rated capacity and the boxes of explosives must be so secured that they can not drop off the truck. In all open body types of vehicles the explosives should be covered with a fire resistant and water repellant tarpaulin.

Electric blasting caps should not be transported in the same vehicle with other explosives. When steel or part steel body trucks are used, canvas or other non-sparking cushioning material should be employed to separate the explosives from the metal.

(Please turn to Page 45)

New Plastic Lens Goggles that Workers Will *Wear*

Increased Surface Hardness for Greater Scratch Resistance

Safety Directors, please note.

Made from a brand new allyl casting resin, Safe-T-vis is a plastic protective lens so lightweight, so comfortable that workers will wear them throughout the period of exposure for complete 8-hour protection.

Tests prove Safe-T-vis qualifications as a safety lens. Standard drop-ball tests show Safe-T-vis provides greater resistance to impact than does case-hardened glass. Tests involving other chief causes of industrial eye injury (flying objects, small particles, corrosive substances and splashing metals) convincingly establish Safe-T-vis' superiority. *Further, increased surface hardness makes frequent replacement unnecessary.*

In actual use Safe-T-vis lenses (cast from allyl resin) have proved—point by point—that they are the finest eye protection available.

Write for free booklet

THE UNIVIS LENS CO., Dept. O
Dayton 1, Ohio

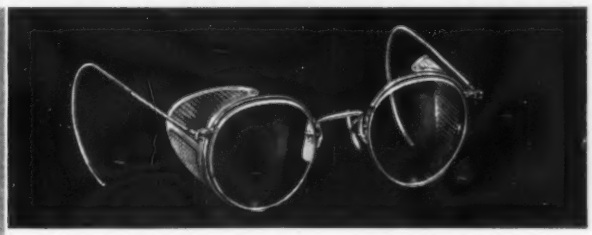
Safe-T-vis

8-hour Protection
8-hour Comfort

Lightweight protective spectacles

A product of THE UNIVIS LENS COMPANY, Dayton 1, Ohio

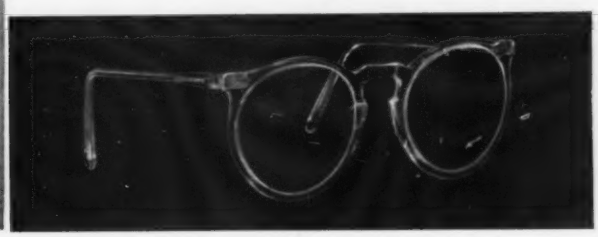
F-100. Spectacle type goggle with full frame. Available in 47 mm. and 44 mm. P-3 shapes.
BRIDGE SIZES: 18 mm., 20 mm., 22 mm., and 24 mm.
TEMPLE LENGTHS: 6 inches, 6½ inches, and 7 inches.

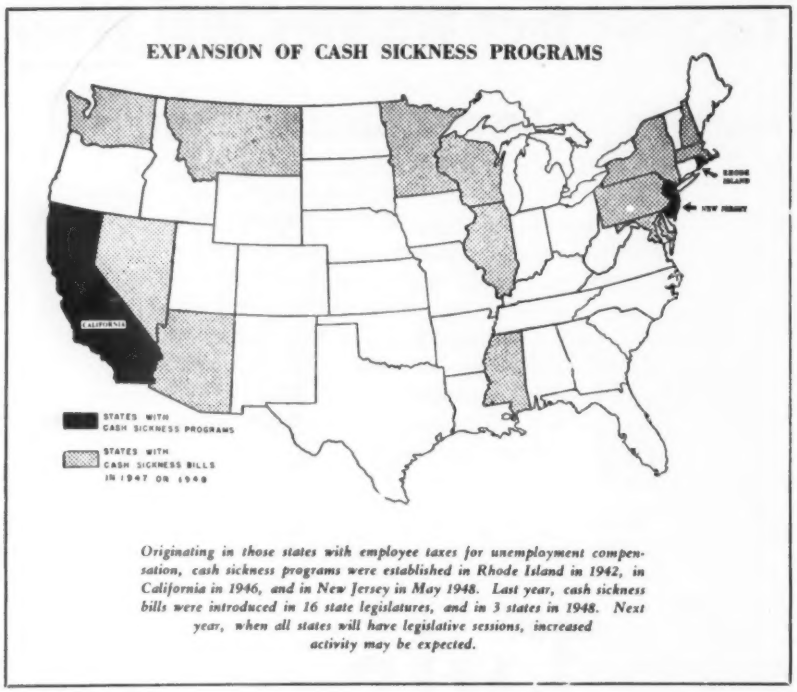


FS-100. Spectacle type goggle with side shields.
BRIDGE SIZES: 18 mm., 20 mm., 22 mm., and 24 mm.
TEMPLE LENGTHS: 6 inches, 6½ inches, and 7 inches.

F-110. Spectacle type goggle with double bridge.
BRIDGE SIZES: 18 mm., 20 mm., 22 mm., and 24 mm.
TEMPLE LENGTHS: 6 inches, 6½ inches, and 7 inches.

A-100. Spectacle type goggle with clear acetate frame. Available in 47 mm. and 44 mm. P-3 shapes.
BRIDGE SIZES: 18 mm., 20 mm., 22 mm., and 24 mm.
TEMPLE LENGTHS: 6 inches, 6½ inches, and 7 inches.




EXPANSION OF CASH SICKNESS PROGRAMS
CALIFORNIA
STATES WITH CASH SICKNESS PROGRAMS
STATES WITH CASH SICKNESS BILLS IN 1947 OR 1948

Originating in those states with employee taxes for unemployment compensation, cash sickness programs were established in Rhode Island in 1942, in California in 1946, and in New Jersey in May 1948. Last year, cash sickness bills were introduced in 16 state legislatures, and in 3 states in 1948. Next year, when all states will have legislative sessions, increased activity may be expected.

CASH SICKNESS PLANS AMONG THE STATES

by **EFFIE M. WOOD**
Research Associate
Research Council for Economic Safety

ALTHOUGH only fourteen states have had legislative sessions in 1948, included among them are the three most active with respect to proposals for compulsory cash sickness benefits in recent years: Massachusetts, New York, and New Jersey. A total of 42 bills was introduced in these three states as compared with 32 during 1947. Two of the New Jersey bills in amended form have become law; this state now joins Rhode Island and California with a compulsory sickness insurance system.

Analysis of the bills shows that the recent trend has continued. Virtually all treat disability as a form of unemployment. Indeed, a significant development is that over half of the bills introduced in New York and Massachusetts call for the payment of sickness benefits directly from unemployment reserves. In these bills the definition of unemployment is expanded to include absence from work on account of sickness or other disability. No new tax would be levied, and no separate sickness fund established. Demand for this approach to the problem of disability arises where unemployment compensation funds appear excessive.

As yet, however, the major incentive to the adoption of a compulsory cash sickness system appears to be the existence of a payroll tax on employees for unemployment compensation. While most states tax only employers for this purpose, four states (Rhode Island, California, New Jersey, and Alabama) have in recent years taxed employees as well. With prevailing high levels of employment, unemployment reserves in these states, as in others, have grown beyond any foreseeable need for unemployment compensation. Rhode Island and California have switched all, and New Jersey most of the employee tax to finance cash sickness programs. Alabama is now the last to continuea tax on employees for unemployment compensation; a cash sickness bill was introduced there last year, and was the subject of hearings. Although there was no legislative session this year in Alabama, it may be expected that pressure far a cash sickness program will be resumed when the legislature reconvenes in 1949.

In a 1946 amendment to the Social Security Act sponsored by Senator Knowland of California, Congress permitted withdrawal of accumulated employee taxes in state unemployment reserves for cash sickness programs. Several other states have small amounts in such taxes collected in earlier years, but at the present time only New Jersey and Alabama are levying em-

ployee taxes for unemployment compensation. Following is a brief resume of cash sickness developments in five states.

Rhode Island

The mild restrictions on benefits authorized by the 1946 legislature, together with a payroll tax rate of 1½ percent collected from employees, sufficed to offset the deficits incurred at the previous 1 percent rate. In accordance with the Knowland amendment mentioned above, Rhode Island in July 1947 transferred the sum of $15,000,000 from unemployment reserves to the cash sickness account. At the same time the tax on employees was reduced to 1 percent of taxable wages (i. e., up to $3000 a year).

The claim rate continues at a high level. Since last July benefits have been running larger than current collections at the 1 percent rate. But the interest on the greatly increased sickness fund is sufficient to meet the deficit, and the total fund remains almost stable. However, with the definite seasonal pattern in claims that has characterized the Rhode Island system since its inception in 1943, benefit payments may be expected to rise in the months of April through August of this year to a degree that will cut into reserves.

In 1947, unemployment benefits were raised to a $25 weekly maximum, while sickness benefits were kept at the previous $18 maximum. Despite the modest benefit level, the program continues to operate at a deficit. An additional $13,000,000 of employee taxes is still available for transfer from unemployment to cash sickness funds. This, according to the Rhode Island Unemployment Compensation Board, is to be done in the near future.

It is clear that a monopolistic state program such as Rhode Island's, which permits benefits for pregnancy, in duplication with workmen's compensation, and in duplication with salary continuance from employers, cannot be financed by a 1 percent tax rate. If it were not for the large reserve, taxes would have to be increased or benefits reduced. But with a fund large enough to draw interest amounting to several hundred thousand dollars a year, it is obvious that the present deficit operation can be continued for a practically indefinite period of time.

(Please turn to Page 41)

COMPARISON OF COMPULSORY CASH SICKNESS PROGRAMS IN THREE STATES

	RHODE ISLAND State Monopoly System	CALIFORNIA Optional System	NEW JERSEY Optional System
In what year was the program adopted?	1942	1946	1948
Who is covered?	All employees covered by unemployment compensation; about 275,000 persons, or perhaps 75 percent of the labor force.	All employees covered by unemployment compensation; about 2,400,00 persons, or perhaps 70 percent of the labor force.	All employees covered by unemployment compensation; about 1,600,000 persons or perhaps 75 percent of the labor force.
Who is not covered?	Workers in firms with less than 4 employees; also self-employed persons and workers in agriculture, domestic service, government, railroad and non-profit employment.	Self-employed persons and workers in agriculture, domestic service, government, railroad, and non-profit employment.	Workers in firms with less than 4 employees; also self-employed persons and workers in agriculture, domestic service, government, railroad, and non-profit employment.
What benefits are paid?	From $6.75 to $18.00 a week, depending on past earnings.	From $10 to $25 a week, depending on past earnings.	From $9 to $22 a week, depending on past earnings.
For how long?	Up to 20¼ weeks after 1 week's illness.	Up to 26 weeks after 1 week's illness.	Up to 26 weeks after 1 week's illness.
Who is eligible?	Workers who have earned at least $100 in covered employment during previous year.	Workers who have earned at least $300 in covered employment during previous year.	Workers who have earned at least $150 in covered employment during previous year.
Is physician's certificate necessary?	YES	YES	YES
Are all types of sickness or other disability covered?	All *including* pregnancy and those in which worker is entitled to workmen's compensation.	All *excluding* pregnancy and those in which worker is entitled to workmen's compensation.	All *excluding* pregnancy and those in which worker is entitled to workmen's compensation.
What is the method of financing?	Employees' payroll tax, formerly for unemployment compensation, diverted for sickness benefits.	Employees' payroll tax, formerly for unemployment compensation, diverted for sickness benefits.	Employees' payroll tax, formerly for unemployment compensation, diverted for sickness benefits, also new tax on employers.
What is the cost to the employee?	1 percent deducted from wages up to $3000 per year.	1 percent deducted from wages up to $3000 per year.	¾ of 1 percent deducted from wages up to $3000 per year.
To the employer?	None. Some employers voluntarily provide sickness payments in addition to state benefits.	Any additional cost for voluntary plans where benefits exceed those from the state plan.	Employers pay ¼ of 1 percent of payroll, plus any additional cost for voluntary plans.
What is the role of private groups and insurance companies.	None. All employees must be insured in the state plan.	Optional voluntary plans are permitted if employees consent, and if benefits exceed those from the state plan.	Optional voluntary plans are permitted if employees consent, and if benefits equal those from the state plan.

MODERN PLANT FIRE PROTECTION

. . . HIRAM WALKER & SONS

FIRE PROTECTION
FOR
INDUSTRY SECTION

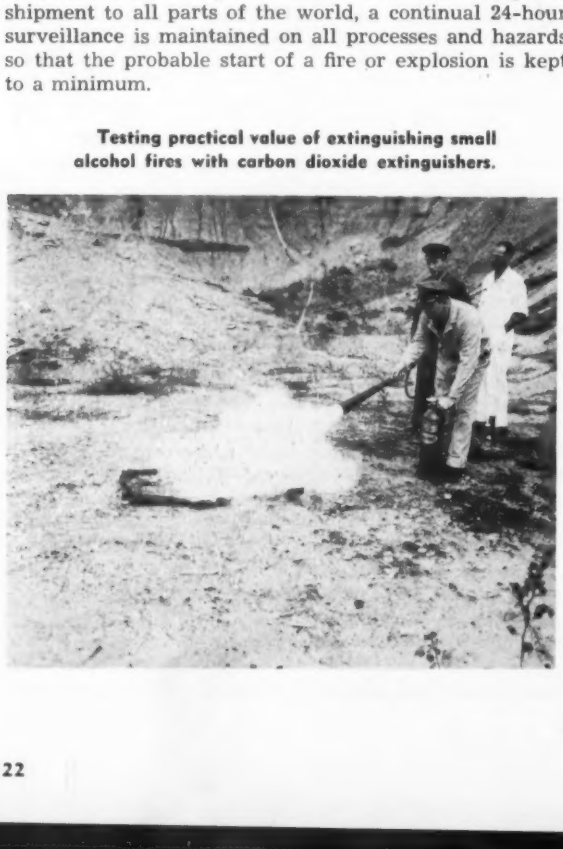
ROBERT S. KELLY
Plant Protection Supervisor

THE modern plant of Hiram Walker & Sons, Inc., located on the Illinois River in Peoria, is the largest grain distillery in the world. Finished products of this plant are whiskies, gins and cordials. By-products consist of dried grains for cattle feed, dry ice and fusel oil.

Continual vigilance over all the processes, equipment and special operations is required in a distillery to minimize fire and explosion hazards. This plant is safeguarded by a modern fire protection system, employing the most suitable modern fire protection equipment and test-proven methods developed in the field of fire protection engineering.

From the point where grain is received at the Walker Riverside elevator to the finished whiskies ready for shipment to all parts of the world, a continual 24-hour surveillance is maintained on all processes and hazards so that the probable start of a fire or explosion is kept to a minimum.

Testing practical value of extinguishing small alcohol fires with carbon dioxide extinguishers.



The huge 1,250,000 bushel grain elevator is kept dust free by a very efficient vacuum dust control system. A good housekeeping program, supervised by the Plant Protection Department, is giving successful results.

All buildings at this plant are of steel, concrete and brick fire resistive construction. Systematic spacing between buildings with a concrete roadway on all sides of each building gives easy approach and access for fire fighting equipment. Inside all buildings where alcohols, whiskies, fusel oil and other flammable liquids are transferred, stored or processed, all floors are equipped with raised curbs and drains for preventing accidental discharge through horizontal wall openings or vertical floor openings. The yard areas contain an elaborate drainage system discharging into the Illinois River.

Electric equipment in manufacturing areas conforms to requirements for hazardous vapors or dust locations which reduces the danger of sparks igniting alcohol vapors or grain and feed dusts. An additional safeguard is provided by daily inspection of electrical equipment by the plant Maintenance Department. Extensive vapor and dust removal systems are installed throughout the plant to reduce the possibility of explosive atmospheres. In addition, all welding or cutting operations are cleared through the central Plant Protection Office by means of a welding permit system. This system gives the Plant Protection Department control over the hazards incident to welding, and before any welding is allowed, probable vapor areas are checked with approved type portable vapor indicators.

An interesting and important fire protection feature in the interior construction of eight (eleven story and two basements) rackhouses at this plant is the reinforced concrete separations at every other floor level with protected stairway and elevator openings. These divide the interior of each rackhouse into seven horizontal cut-off sections which aid in reducing the spread of fire by tending to confine it to the area of origin.

Sprinkler Systems

All buildings, except the grain elevator, are protected by automatic sprinkler systems supplied from 10" underground "looped" water mains which encircle the entire

plant. This looped underground piping system is controlled by a number of sectional valves which permit cutting off a small section without interfering with the flow of water to other parts of the plant. Each sprinkler riser is controlled by an outside post indicator valve having a proper wire seal when valve is open. Each riser contains a highly sensitive, modern, paddle type water flow indicator which detects water flow and transmits an electric coded signal to the plant proprietary recording equipment located in the central Plant Protection Office.

Localizing Emergencies

When fire or an accident opens a sprinkler head in any part of the plant, the affected area is immediately localized for quick attention and action by the Plant Protection Department. In addition, a master water flow indicator is installed in the underground yard main to detect leaks and serves also as a checking signal in event that a riser flow indicator fails. The combined sprinkler systems at this plant contain approximately 59,000 sprinkler heads which ranks as one of the larger sprinkler installation in the United States.

Several small auxiliary hose lines supplied from sprinkler systems are located on each floor in most of the plant buildings for the emergency extinguishment of small fires before sufficient heat is attained at the ceiling to open sprinkler heads. Private yard fire hydrants, supplied from sprinkler yard mains, are located at each end of all buildings. A supply of 2½" fire hose on wheeled carts and auxiliary equipment is located at numerous places throughout the plant areas.

Water Supply

At this point one might say, "What water supply does a plant of this size require?" The city water direct pumping system supplies well over 2,000 g.p.m. at 75 to 80 pounds residual pressure. The plant has private water supplies consisting of a 1,500 g.p.m. electric fire pump taking suction from either a 150,000 gallon surface tank or from domestic well water lines. A 150,000 gallon gravity tank (elevated 162'), for additional water supplies, has just been completed. This tank augments the regular water supply system and is available when the water pressure in the sprinkler mains drops below 82 pounds. Through two double-valved cross connections the plant domestic deep wells' supply of 6,000 g.p.m. at 75 to 125 pounds pressure is available for fire use. In addition, the Illinois River, 150' distant, provides an inexhaustible suction supply for the city fire department pumpers.

First aid fire extinguishers of adequate type and quantity are methodically distributed throughout the plant by the Plant Protection Department so the correct types of extinguishers are available for the class of fire that is likely to occur. Instruction for proper operation and use of hand extinguishers is given to plant employees.

Plant Guards

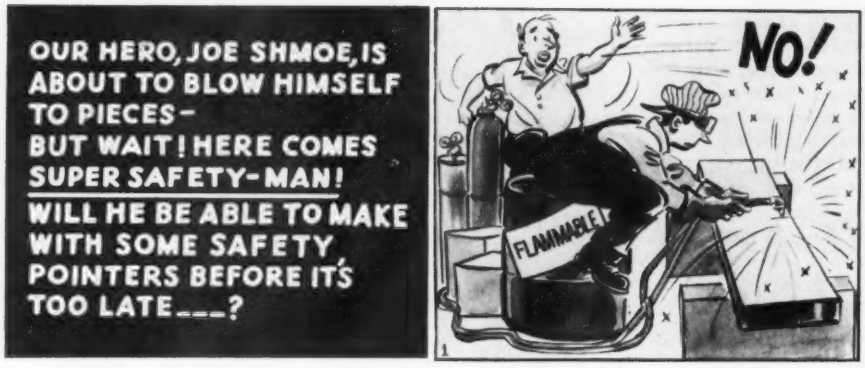
The Plant Protection organization, rigorously schooled in fire fighting, consists of 65 plant guards augmented by 30 volunteer employees on the plant fire brigade. The plant guards supervise the proprietary fire alarm, water flow and watchman signal recording equipment, check water pressure readings, test fire alarm boxes, and make watchmen day routes. Plant Protection reports are permanently recorded and carefully checked each day by the Plant Protection Department head. Immediate steps

Annual servicing of all fire extinguishers includes careful weighing of gas cartridge (in loaded stream extinguishers) to detect loss of gas.

Foam generator equipment showing arrangement of two hoppers for use of regular foam compound and the special foam compound for alcohol fires.

are taken to correct reported impairments and the abnormal conditions with verification check following corrections. The entire premises is continually patrolled by plant guards who report to the central Plant Protection Office by telephones located in numerous watch towers placed strategically throughout the plant. Their rounds are supervised by combination watchmen signal and fire alarm boxes.

Each man makes a detailed daily report noting any fire hazards, poor housekeeping and derelictions or violations of plant security regulations. Periodic maintenance inspection of post indicator valves and sectional control valves are made. Daily inspection of extinguishers, hose carts and auxiliary equipment is made. The sum total of these efforts adds up to one phrase, "excellent fire protection." The organization of Hiram Walker & Sons. Inc. believe these efforts pay dividends. —*Article, courtesy of Sentinel magazine.*


OUR HERO, JOE SHMOE, IS ABOUT TO BLOW HIMSELF TO PIECES-
BUT WAIT! HERE COMES SUPER SAFETY-MAN!
WILL HE BE ABLE TO MAKE WITH SOME SAFETY POINTERS BEFORE IT'S TOO LATE---?
NO!
FLAMMABLE
MOVE THE JOB-OR
FLAMMABLE
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STOP THOSE WELDING A

by G. R. WEBSTER
Secretary of the Oxy-Acetylene Committee
International Acetylene Association

Mr. Webster, a recognized authority on welding and cutting safety, offers some timely advice on eliminating fires during building, expanding and remodeling operations in your plant.

WELDING and cutting do not present a serious fire hazard if properly handled. Fire rarely occurs when a welding or cutting operation is part of a production process, because precautionary measures are taken to safeguard both the surroundings and the material being worked on. It is estimated that about eight out of ten fires, the origins of which definitely can be traced to welding or cutting, occur in places where such work is seldom done. These fires are preventable. Common sense and a few extra moments of preparation are the only prerequisites.

Just as with any process involving open flames and sparks, certain reasonable precautions must be taken. First of all, it must be recognized that there are some places in nearly every plant or shop where it is never permissible to do any sort of work that makes flame, heat or sparks. In such locations even smoking must be prohibited. But welding and cutting can be done in most locations with complete safety providing proper care is taken.

Knowing the ways that fires may start is an important step in learning how to prevent them. Three elements are necessary to create a fire: (1) some material that will burn, (2) oxygen to support combustion, and (3) a source of ignition. Unless all three elements are present, combustion is impossible. To prevent fires, then, the three must not be allowed to combine; to extinguish fires, one of the elements must be removed.

Welding and cutting operations necessarily involve the use of a high-temperature, open flame—a source of ignition that cannot be eliminated. The flame itself depends upon oxygen supplied through the blowpipe and draws additional oxygen from the surrounding air. About one-fifth of the air we breathe consists of oxygen and it is quite impracticable to remove it from around welding and cutting operations. The one element over which the operator has complete control is the combustible material. Consequently, prevention of welding and cutting fires boils down to the simple problem of keeping a source of ignition away from any material that will burn.

Ignition Sources

Consider first the sources of ignition that can be created by a welding or cutting operation. Probably sparks are the most treacherous items. Sparks, particularly from flame cutting work, may fly as far as 25 or even 35 ft. They are actually little balls of glowing metal oxides and some of the larger ones may retain enough heat to start a fire several seconds after landing.

Hot slag from a cutting operation is another offender as is molten metal. These two potential ignition sources start fires by falling on combustible material. Hot metal, which has just been cut or welded, becomes a fire hazard only when it is dropped or placed on some material that can burn. Unthinking operators might place combustible material on top of hot metal. Even though metal may have cooled to below a visible red color, it may still be hot enough to start a fire.

OVE THE FIRE HAZARD--
AMMABLE
IF YOU CAN'T MOVE THE JOB OR THE FIRE HAZARD— USE GUARDS--
PREVENT AND BE READY FOR EMERGENCIES
WATER
SAND

G AND CUTTING FIRES

FIRE PROTECTION FOR INDUSTRY SECTION

The welding or cutting flame, because of its intense heat, will start a fire if brought into contact with something capable of burning. Probably because this is so obvious, the flame itself is rarely the ignition source of a fire.

Hazardous Materials

The list of materials that will burn is a very long one. Of most concern are the materials apt to be found in locations where welding and cutting are performed. The following list, by no means complete, is divided into three general classes:

1. *Flammable gases, liquids or solids, such as gasoline, benzene, alcohol, tar, oil, grease or turpentine.* These substances form vapors which can be exploded when mixed in certain proportions with air or oxygen. If there is any doubt about whether or not a certain gas or liquid will burn, a person in authority, a textbook or a local fire department should be consulted before any work is begun. Regardless of any precautions which may be taken, it is never safe to weld or cut in the vicinity of any open vessels containing materials in this class.
2. *Waste, rags, excelsior, paper, cardboard, burlap, paint, fabric covered bales, and paulins.* Such materials don't burn quite as fast as most of those listed above in (1), but a fire started in them is likely to prove very hard to control.
3. *Wooden flooring, partitions and walls; lumber; chips; packing cases and crates; floor sweepings; and some types of wall boards.* Fires started in such materials may smolder unnoticed for a considerable period of time and then flare up vigorously later on.

In well maintained and supervised shops fires are a rarity. They start most often when welding or cutting work is being done in temporary locations. There are a number of explanations for this. The equipment is likely to be used temporarily in a place which cannot be made satisfactorily fire-proof. Sometimes the fire hazards are not out in plain sight but are known only to the people who live or work there. Altogether too frequently the men of an outside contractor, who bring in welding and cutting equipment, will hesitate to ask for necessary assistance in preventing fires. Demolition work presents a particularly serious problem in fire prevention due to the general disorder and litter common on such jobs.

It is usually a simple matter to keep combustible materials out of shops where a great deal of welding and cutting is being done continually. Good housekeeping and a little common sense reduce the fire hazard to zero. Automobile repair shops are an exception. Altogether too many fires are started, through carelessness, either by ignition of the contents of gas tanks or upholstery of cars.

It is, of course, always preferable to do welding or cutting in a shop equipped for that purpose. If at all possible, a piece of material to be worked on should be brought to the shop instead of taking the welding or cutting equipment to the work. Even if the job involves a heavy, awkward-to-handle piece of metal, it is nearly always better to move it rather than the equipment.

It has to be recognized, however, that in some instances welding and cutting must be done in locations where a fire hazard exists. For example, work may have to be done on the steel framework of a building or a

very large and heavy piece of equipment may have to be repaired under emergency conditions. In such cases, the following precautions should be followed:

1. Move all combustible materials possible away from the work. If they can't be moved, cover them with something that is fireproof and protective.
2. Confine all sparks to the work as closely as possible by means of metal or asbestos shields. Make sure that the shields are large enough and tight-fitting so that they do not permit sparks to roll underneath or slide through openings. Curtains should be weighted down against the floor or ground so sparks cannot possibly get underneath. Don't use canvas or paulins for spark shields. Such materials may catch fire.
3. Sweep floors clean of scraps, dust chips and other debris and protect combustible floors by thoroughly wetting with water or damp sand. It is advisable also to protect concrete floors from hot slag and molten metal. Concrete floors will chip and spall when subjected to the intense heat of hot slag or the oxy-acetylene flame.
4. Post a helper or lookout ready at all times to put out any fire. He should have a properly selected fire extinguisher, pail of water, water hose, or a bucket of sand depending upon what kind of combustible materials are nearby. It isn't reasonable to expect a person who is cutting or welding to watch for sparks; his attention has to be on the work.
5. Make sure a piece of steel being cut will not drop where there is any possibility of starting a fire.
6. If there is an automatic sprinkler system in the building, don't turn it off. However, be sure to protect the fusible heads where necessary by placing small protective shields around them.
7. After the work has been completed, examine the surrounding area carefully for smoldering fires. If there is the least doubt as to whether or not a smoldering fire would be visible at the time of stopping work, then a lookout should remain at the place for a safe period of time after work has stopped. This may be a half hour or even longer.

If it is absolutely necessary to work in confined spaces still other precautions must be taken. The space must be well ventilated, either naturally or by a fan or blower, while the work is being done. Under no

(Please turn to page 43)

Useful Literature

UL-25 . . . A new catalog just released by the Chicago Eye Shield Company not only lists the company's products but also tells where to use, how to use, how to maintain and how to select industrial protective equipment. By going well beyond the scope of an ordinary catalog it becomes a guide to accident prevention.

UL-26 . . . A new, 1948 catalog of technical books has just been issued by the Chemical Publishing Co. This catalog includes the latest books on chemistry, physics, science, technology, petroleum, medicine, foods, engineering, metals, building constructions, etc. Gives date of publication of each book, number of pages and prices.

UL-27 . . . Literature is available from R. O. Hull & Company, Inc., describing their new product, No-Cro-Mist which is added in small amounts to chromium plating baths to control the evolution of fine fog or mist by chemical means rather than by mechanical covering of the surface of the bath. The procedure is said to greatly improve health conditions in the plating room since all chrome fumes are eliminated from the atmosphere. Operation of the bath is not affected by the addition agent.

UL-28 . . . O'Leary's Fire Prevention Co., Inc., have prepared a booklet describing their "On Watch Fire Alarm." This system can be installed in factories, stores, lumber yards, railroad stations, or any place which has electricity. Thermostats located at various points throughout the building automatically turn in a fire alarm as quickly as a fire takes place. When such a fire takes place a siren sounds which can be heard for a great distance. Lights in the alarm box start flashing and reading matter on the alarm box states plainly the words "FIRE — CALL FIRE DEPARTMENT." This visible and audible alarm continues until such time as help arrives.

UL-29 . . . Just off the press are two pamphlets prepared by Medusa Products Division of Medusa Portland Cement Company. One of these pamphlets describes in detail the techniques of waterproofing. It describes successful waterproofing of buildings as a real problem and one which should be studied carefully before the job is done. The second booklet describes in detail various efficient and effective methods of painting concrete, stucco and masonry. Also included in this booklet is material describing Medusa Floor Coating. The Manufacturer claims this material furnishes an absolutely moistureproof finish to many types of floors.

UL-30 . . . Non-slip "Safety-Walk" surfacing for floors, decks, catwalks and ramps is described and pictured in nine new four-page brochures prepared by the Minnesota Mining and Mfg. Co. Each brochure is tailored to specific industries and institutions.

Typical installations are shown in 53 pictures covering hotels, restaurants, store entrances, dairy industries, food processing plants, textile weaving and dyeing plants, oil fields, meat packing plants, and general industrial applications.

UL-31 . . . Rust-Oleum Corporation has recently issued a new descriptive bulletin on Chemical Resistant Coatings now in production by the corporation. Designed specifically as a coating for service under severe acid or alkali fumes, condensates, moisture vapors, alcohol fumes, greases and oils, these new coatings are fortified with rubber to resist chemical conditions which are the major cause of rust in many types of industrial plants.

UL-32 . . . American Optical Company have released a two-color pamphlet entitled The A-O Plan for Industrial Safety and Visual Efficiency. This booklet describes in a clear and concise manner why inefficient industrial vision costs management money and how this problem can be solved. This publication includes many charts, diagrams and photographs.

Among the 64 pages in the book are 16 pages explaining the correct safety procedures.

INDUSTRY News

WEST NEW DISTRIBUTOR . . . West Disinfecting Company announces the distributorship of the newly-

developed CORBIN ELECTRIC FLOOR MACHINE.

These completely new units, products of the well-known Corbin Screw Division of the American Hardware Corporation, have been in development stages for the past four years and represent the most timely and up-to-date findings by engineering research laboratories devoted exclusively to studies in floor maintenance equipment. Corbin has started manufacturing floor machines only after having become convinced that their particular machines answer the heretofore insolvable problems encountered in the manufacture and application of such units.

Ansul Appointment

William R. Rinelli has been appointed director of Ansul Chemical Company's new Customer Relations

Department. This department will correlate the company's advertising, publicity, sales promotion and marketing.

Rinelli is well known in the refrigeration industry as the co-author of a number of technical papers. He is also one of the authors of "Refrigerating Data Book", published by the American Society of Refrigerating Engineers. Prior to this new assignment, Rinelli was manager of Ansul's development division. He was graduated from the University of Wisconsin in 1933 and has been with Ansul 13 years.

ISEA PRESIDENT . . . Mr. L. E. Dickson was unanimously elected President of Industrial Safety Equipment Association, to succeed retiring President, Mr. J. T. Ryan, Jr., of the Mine Safety Appliances Company, Pittsburgh, Pa. Mr. Dickson is President of the Standard Safety Equipment Company, with main offices and factory in Chicago, Ill., and branches in Newark, N.J. and Cleveland, O. He is also President of Dickson Safety Products of Los Angeles, Cal.

Mr. Walter G. Legge, of the Walter G. Legge Company, New York City, was unanimously elected Vice President of the Association and will be Chairman of its Planning Committee. Mr. Dickson and Mr. Legge were elected to their positions to conduct the affairs of the Industrial Safety Equipment Association at the Annual Meeting of the Association recently held at the Monmouth, Spring Lake, N.J.

FLOOR SAFETY ENGINEER . . . J. Zeitner, until recently Supervising Engineer of Safety for the Ocean Accident and Guarantee Corporation, Ltd., has joined the Walter G. Legge Company Inc. of New York, manufacturers of non-slip floor maintenance materials, as floor safety engineer.

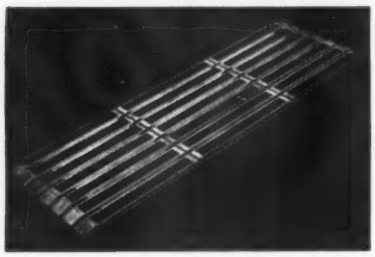
SAFETY BADGES FOR EBCO . . . One hundred and thirty-nine employees of The Ebco Manufacturing Company, 401 West Town Street, Columbus 8, Ohio, world's largest manufacturer of electric drinking water coolers, were recently awarded safety badges for having worked one or more years without a lost-time accident. This is an exceptional record, but even more important is the fact that twenty-two men in this group have completed nine or more years without a lost-time accident. These men are shown being presented their safety awards by L. B. Benua, Vice

President and General Works Manager of the Ebco Company.

ASSISTANT SALES MANAGER . . . Mr. Martin L. Ter Bush, Jr. has been appointed Assistant Sales Manager for the United States Safety Service Company with general offices located in Kansas City, Mo. Mr. Ter Bush was formerly Branch Manager of the United States Safety Service office in Detroit, Mich. He has had considerable experience in accident prevention and the safety equipment field. Mr. Ter Bush will make his headquarters with the company in Kansas City, Mo., but will devote considerable time in visiting various sales branches of this company which are now located in all principal industrial cities in the United States.

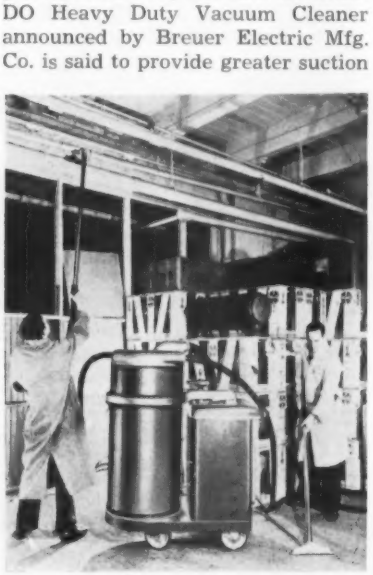
New PRODUCTS

NP-1 . . . SAFETY FLOOR MATS—National Safety Mats are a new type of wood link mat combining all the fatigue-reducing features of a wood mat with SAFETY, according to the



Manufacturer, National Mat Company. These new mats are surfaced with Minnesota Mining Safety-Walk, a non-skid mineral surfacing material unaffected by oil, grease, gasoline, water and most acids and alkalis. This mat is built of seasoned hard wood cleats two and one-half inches wide, which are linked with cadmium plated wire and plates. The Safety-Walk surface is applied in strips to the wood cleats with a permanent adhesive and can be replaced.

NP-2 . . . INDUSTRIAL VACUUM CLEANER—Big in capacity and performance and with exceptionally powerful suction, the new TORNADO Heavy Duty Vacuum Cleaner announced by Breuer Electric Mfg. Co. is said to provide greater suction



at lower operating cost and extreme ease of operation. Units are built in four sizes, with explosion-proof motors if desired. An outstanding feature of these vacuum cleaners is their ability to pick up wet or dry substances without harm to filter or tank and without any special attachments or equipment. Also, the unit can be changed instantly from suction to blowing by the movement of a single lever.

NP-3 . . . SAFETY BOTTLE CARRIER—Benson & Associates, Inc. have recently announced their new SAF-T-BAGS for the safe handling, carrying, transporting, covering, packaging and storage of filled or empty glass containers. Made in standard sizes to fit glass bottles from 1 quart up to 5 gallons. When glass containers are shattered due to dropping, etc. the device will prevent injury to workers. The SAF-T-BAG is made of an outer jacket either of

neoprene coated fabric, flameproof duck or plain duck material complete with drawcord to draw up snug around neck of bottle, rigid bottom disk and strong carrying handles.

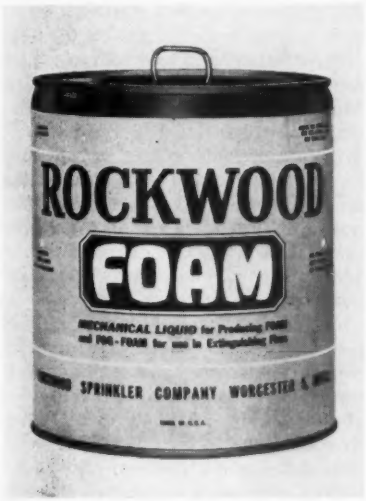
NP-4 . . . FLUORESCENT LAMP SAFETY DEVICE—The new P-40 Type FLUR-O-LOCK has recently been announced by The Laduby Co. This lamp lock can be used on all type fluorescent lamp holders, can be installed instantly and insures correct position of lamps. The P-40 FLUR-

O-LOCK is easily installed by sliding on over the lamp holder, which engages the lamp bi-pins in the slots of the lock. Manufacturer recommends that one P-40 be used on each end of the lamp for best results, thus assuring safety from accidents caused by falling lamps; economy by eliminating vibration difficulties and automatically increasing lamp, starter, and ballast efficiency.

NP-5 . . . OIL ABSORBENT—The Diversey Corp. now have on the market QUIK-SIL, a new type of safe and practical oil absorbent product that replaces a lot of miscellaneous inflammable materials and soaks up oil, gasoline, lacquer thinner and all solvents. The prod-

uct is harmless to shoe soles and floors. Reduces dangers of slipping accidents and fire hazards.

NP-6 . . . FOR FIRE FIGHTERS— The photograph below pictures a 5 gallon can of the new Rockwood FOAM now available to the trade through Rockwood Sprinkler Co. This new mechanical liquid type foam is used for producing Foam and Fog for extinguishing fires involving gasoline, benzol, etc. Manufacturer states that for best results it should

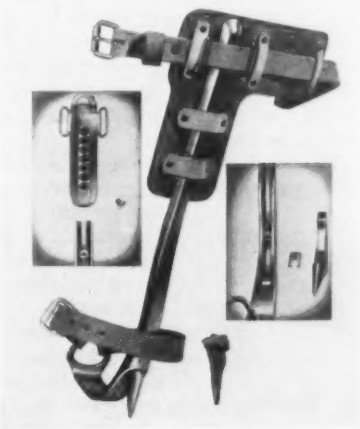


be used with Rockwood's type FFF FogFOAM Nozzle. To obtain a satisfactory FogFOAM pattern discharge, FOAM should be used through a Rockwood Eductor, which will automatically proportion six parts of FOAM liquid with 94 parts of water at any point in the hose line. Rockwood FOAM used through FFF nozzles provides far greater fire extinguishing action than has ever been possible with old style mechanical foam equipment according to the manufacturer.

NP-7 . . . WINCH AND SWINGING SCAFFOLDS—Faster, easier, safer operation of swinging scaffolds is provided by the new aluminum Saf-T-Swing Winch and stirrup unit according to the manufacturer, Safway Steel Products, Inc. The light weight, high speed operation and convenience of the new Saf-T-Swing, approved by Underwriters' Laboratories, will reduce worker fatigue and increase worker efficiency—all in a new high degree of safety. Simple, two-way crank operation permits raising or lowering of platform at the rate of 20 ft. per minute with minimum effort. The unit, weighing only 55 lbs., can easily be carried by

one man. All steel cut gears assure dependable operation and a long, trouble-free life. Self-lubricating bearings are provided throughout and the entire unit is corrosion resistant. The winch and stirrup are largely aluminum and all exposed steel parts are cadmium plated.

NP-8 . . . ADJUSTABLE CLIMBER— After two years of research and development, Miller Equipment Co., Inc. introduces a new, modern adjustable climber. Scientifically designed, the Miller Adjustable Climber is said by the manufacturer to mark the first radical change in climber design in the past 35 years. Some of the exclusive features incorporated in this climber include a removable gaff of improved design, making it almost impossible to cut-

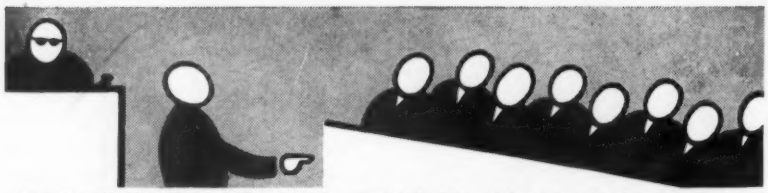


out on a pole. This gaff can be replaced on the job by the simple operation of a locking key. Greater foot surface for wide shoes and winter rubbers is offered and better arch support is supplied. Also included is a new, practical screw-fastened adjustable shank allowing size ranges of 14½ to 17½ inches. This climber is now available for prompt shipment.

NP-9 . . . DUST FILTER—A new self-cleaning Autoclean Dust Filter has been developed and field tested by the Day Company. Designed for continuous-automatic operation, the new filter provides positive and continuous air cushion cleaning by means of slow traveling "blow-

back" rings blowing high pressure air in a reverse direction through the cloth tubes. Dust adhering to the inside surface is dislodged and falls down into a hopper where it is carried away continuously. No shutdown of any portion of the filter is necessary for cleaning or rapping as the cleaning mechanism operates continuously. Compact unit design has no dust-catching ledges, requires little floor space and only minimum installation costs. Units are furnished in multiples of four tubes.

NP-10 . . . PORTABLE FIRE PUMP— A new self-powered centrifugal pump unit, announced by the Hale Fire Pump Company, meets the need for a portable general purpose unit for numerous industrial applications requiring dependable, efficient operation. It provides a quick, efficient means of fighting fire with either foam or water before major equipment arrives. It can be carried by two men and may be operated while in motion. It is ideal as an auxiliary for pumping into a booster tank or direct into suction from any source of liquid which a main pumping unit cannot reach.



RIGHT OFF THE DOCKET

Injury Not Due To An "Accident"

ANNA TACI had been employed by the U. S. Rubber Company for approximately 15 years. She claims that on December 16th, 1946, she suffered a severe pain in her back while working as a cementer.

On the date in question, she pulled a table holding 40 or 45 trays of rubber gloves across a rough wooden floor toward the place where she was working. She estimated that each trayful of gloves weighed about a pound and that she pulled the table a distance of from 10 to 12 feet. While so doing, she felt a "kink" in her back which did not bother her "too much".

She continued her regular cementing work in the usual manner for an appreciable time during which she applied the necessary cement to the gloves contained in quite a few of the trays hereinbefore referred to. She claimed that as she was lifting one tray over to the other table, she got halfway over and felt a severe pain in her back and that in moving a tray she had to swing around to put it over to the other table. She became temporarily unable to move or unable to call for help. An inspector in her department immediately noticed that she was in some difficulty and seated her in a chair.

The method of operation on this occasion was the same as that which took place on each day of her employment. Question is whether or not the injury arose by reason of an accident occurring in the course of employment. Claimant contended that the moving of the table containing the number of trays containing rubber gloves constituted an accident which caused her to develop the so-called kink in her back.

The Court concluded that in view of the testimony which indicated that there was no pulling of the table which had any connection with the injuries claimed to have been suffered, that the injuries suffered were the result of doing the same thing in the same manner as she had always done them in carrying out her duties and not because of the happening of any accident.

Taci vs. U. S. Rubber Co., Supreme Ct. of R. I., May 17, 1948
58 Atlantic Reporter, Second Series, Page 921

Employee Refuses To Accept Medical Aid

STUMP was employed as a tool checker. He worked in the tool room and his job was to hand out tools to other employees. While so engaged, he struck his shin bone on a steel wheel puller, which caused a small bruise at the site of an old fracture, which he sustained in 1929 or thereabouts.

He first reported to Dr. Healy, company physician, on September 16, 1946, who found an infected abrasion, which he treated by removing some necrotic tissue and applying an elastic bandage. The doctor thought that there was no reason for the claimant to stop work, as he could sit down at his job, but directed him to return at intervals for treatment. The claimant did not return as directed, but undertook to treat himself. His injury did not heal, but developed into a large ulcer and finally on April 15, 1947, his leg had to be amputated.

The Workmen's Compensation Act clearly indicates the responsibility of the employer to furnish free of charge to an injured employee such medical attention as is necessary in regards to the nature of the accident. The employee is directed to accept it. An employer is required to furnish free of charge the attending physician whom the employee is required to accept subject to additions. It is further stated under section 26 of the Workmen's Compensation Act that "the refusal of the employee to accept such service when provided by the employer shall bar said employee from further compensation until such refusal ceases, and no compensation shall at any time be paid for the period of suspension unless, in the opinion of the Industrial Commission, the circumstances justified the refusal, in which case the Industrial Commission may order a change in the medical or hospital service." Question presented here is whether the employer furnished medical services and attention and whether the claimant refused to accept them to such an extent as to bar him from compensation.

The record reveals that Dr. Healy first treated the claimant on the 16th of September, and told him to return for further attention two days later. Stump did not return as directed and Dr. Healy went to the tool room to talk to him and explain to him how serious the trouble was, due to the fact that the ulcer was superimposed on an old area of discolored skin, caused by the old fracture in 1929. The claimant was very indefinite and would not promise to come back. Dr. Healy did not see him again until October 18, at which time his leg was about in the same condition — still with an infected abrasion. He was again instructed to come back in two days, which he did. After some medical treatment, Stump was again instructed to come back two days later, which he did not do, and the doctor did not see him again until December 5, about six weeks later. His leg was then a little worse, and the doctor again sought to impress upon him the importance of having it attended to. The doctor stated that he made every attempt to make the claimant come to see him, but he refused to do so.

In addition to the doctor's efforts, the shop foreman, at the request of the nurse in charge, told Stump to go to the first aid room, but got no definite promise from him. The claimant's immediate boss was informed of the situation. He advised Stump to go and get medical assistance. Whether or not he ever went, he did not know. Some of the employees were instructed to interest Stump in getting medical attention, but to no avail.

The claimant on the other hand, contended that he did not receive permission to go for treatment although he was instructed to go to the first aid room for treatment. Claimant's contention, of course, was emphatically denied by company employees. The record indicated clearly that he could have reported to the first aid room anytime by

(Please turn to Page 37)

TECHNICAL FILE ON TOXIC GASES AND VAPORS

SAVE THIS VALUABLE REFERENCE MATERIAL: BUILD UP A PERMANENT OFFICE FILE.

D 22. CAUSE OF POISONING. All symptoms are due to various degrees of poisoning. The poisoning process is that of asphyxia or suffocation due to the robbing of vital oxygen from the tissues of the body, causing a condition called anoxemia. The carbon monoxide gas combines with the hemglobin of the red blood cells in the same manner as does oxygen. When this combination takes place in ever-increasing proportion, the tissues receive correspondingly less oxygen and their functioning ceases. If pure air is breathed again before the victim dies, the carbon monoxide is eliminated gradually, as it is inert, in essence, and does not change form in the body.

D 23. SEVERE CASES. In severe poisoning cases, brain cells, which are the most delicate in their reaction to lack of oxygen, may die within a few minutes and result in permanent mental or neural damage. Other tissues can live for several hours without oxygen.

D 24. TIME ELEMENT. Carbon monoxide is known to have an affinity for hemoglobin about 210 times that of oxygen and the resulting compound is much more stable. This factor, plus the amount of each gas present in the exposure, determines the proportion of each which will become combined with the body's hemoglobin in any exposure. A proportion of 80 per cent carbon monoxide hemoglobin is fatal rapidly. However, since these considerations are affected by individual time variations, the rate of breathing becomes of paramount importance as a time element in the exposure. Thus, within the same exposure, the person at rest will be affected by the gas concentration much later than a person doing heavy work and breathing more deeply and quickly.

D 25. SIZE OF WORKER. In addition, the relative size of the worker exposed has a direct bearing on the time needed for a certain harmful proportion of the blood to combine with carbon monoxide. The volume of blood in the body varies with the weight, but the quantity of air breathed, a feature of the individual's metabolism, will vary with the surface area of the body. In general, then, the smaller a person, or animal, the greater is the surface area in proportion to the weight and, hence, to the volume of blood. This means that the saturation of blood with carbon monoxide will be greater as the size of the body is smaller.

D 26. MAXIMUM ALLOWABLE CONCENTRATION. The maximum allowable concentration of carbon monoxide for a work period of eight hours was set by the American Standards Association on January 15, 1941, as 100 parts per 1,000,000 parts of air, per volume (400 ppm for one hour), the air containing at least 19 per cent of atmospheric oxygen by volume. General body responses to exposure were tabulated by Henderson and Haggard as the product of time in hours by the parts per million of carbon monoxide, in the following form:

When Time (in hours) x Concentration (in ppm) equals 300—no effect
When Time (in hours) x Concentration (in ppm) equals 600—just noticeable
When Time (in hours) x Concentration (in ppm) equals 900
—headache and dizziness
When Time (in hours) x Concentration (in ppm) equals 1500—dangerous

Authorities agree that exposure even to small amount decreases efficiency. Chronic poisoning due to small exposures over long periods is doubted, as the gas is not cumulative, but is replaced readily by oxygen in pure air. However, loss of appetite, nervousness and apathy are recognized by-products of prolonged exposure.

D 27. FIRST AID TREATMENT. In few hazards is competent first aid service so all-important as in that of carbon monoxide poisoning. Rescue work must be prompt in carrying the victim to fresh air, prompt in obtaining a doctor or hospital ambulance and prompt in giving prone-pressure artifiicial respiration, if the victim has stopped breathing. Efficient shop first aid squads should know that a lower head position is good and the victim's clothing must be loosened, but his body kept warm by blankets and hot water bottles.

A characteristic of carbon monoxide poisoning is a flushed skin, due to the cherry red color of the carbon monoxide hemoglobin product. The body itself, however, can be chilled down to 92 degrees because of the lowered metabolism. In general, the amount the temperature goes below the normal 98.4 degrees indicates the severity of the poisoning.

D 28. NO WALKING. First aid squads must know that a carbon monoxide victim should never be permitted to get up and walk around without the doctor's confirmation of recovery. Many lives have been lost in this way because exercise may cause the victim to collapse and die due to the extra involvement of increased

TECHNICAL FILE ON TOXIC GASES AND VAPORS

oxygen needs. A victim should *never* be left alone to wander around, no matter how mild the case.

D 29. SEVERE CASES. In severe poisoning cases, indicated by the loss of consciousness and breath-failure, the use of hospital or fire department equipment to administer oxygen is a necessary follow-up to first aid artificial respiration processes. A mixture of 90 per cent oxygen and 10 per cent carbon dioxide usually is already prepared in emergency tanks. Generally, no medication is necessary, the victim being kept at rest in bed for a week or ten days. Drugs sometimes are given to relieve continuing headaches. Rest treatment is absolutely essential, since a recuperative period must be permitted for damaged tissues.

Destroyed brain cells may cause insanity, paralysis or permanent nerve disorders. Carbon monoxide poisoning is very hard on workers with heart, blood or nerve troubles and such employees should never be permitted to work where exposure is possible.

D 30. PREVENTION. Although prompt first aid and doctor's care can save lives, the correct approach is one of prevention. The best protection is good work room ventilation. The concentration of carbon monoxide in the air should be kept within the limits proposed. Air samples should be tested regularly. Many detectors and carbon monoxide alarms are on the market. Unsafe atmospheres should be corrected by the proper engineering methods of exhaust systems. Flames, drafts, and equipment should all be functioning properly and be inspected regularly.

D 31. RESPIRATORY EQUIPMENT. If a worker must enter a closed space where the gas may be present, he should be made to wear an air-line respirator and a safety line (or air-purifying equipment) approved for protection against carbon monoxide gas by the United States Bureau of Mines. It should be remembered that ordinary dust respirators and certain types of gas masks do not protect against carbon monoxide. (Chemical filter masks are of no use in air that is deficient in oxygen.) The types approved for this gas are the supplied-air respiratory equipment, which protects against long exposures and deficient atmospheres, and the air-purifying respiratory equipment of the chemical filter type, which serves to change harmful gases into harmless mixtures.

D 32. EMPLOYEE EDUCATION. All control programs must include the education of the worker and his supervision to existing dangers and their effects. In addition, all workers in possible hazards should be watched for physical fitness and personal habits.

D 33. HYDROGEN CYANIDE. Hydrogen cyanide (also called hydrocyanic acid, prussic acid, cyanhydric acid, formonitrile) is a gas that is considered one of the most poisonous substances known. It represents the second of the two chemical asphyxiants familiar to industry, the other being carbon monoxide.

In commercial form, hydrogen cyanide is usually a colorless acid, with an odor of bitter almonds, and so volatile that it can cause instant death if inhaled in a sufficiently large dose. The relative density of the vapor to air is about 0.7, which means that it is lighter than air and tends to rise.

The acid is the most toxic of the cyanogen compounds, which are all considered poisonous. The solid compounds, or salts, have to be ingested to cause an acute poisoning, an occurrence not very likely in industry. However, a chronic form of dermatitis, called cyanogen rash, with itching and blisters, can be produced by the solid compounds when in contact with the skin. Any cyanogen dust also can injure the eye or nasal membranes.

D 34. OTHER CYANOGEN COMPOUNDS. The common cyanogen compounds known to industry are hydrocyanic acid, cyanogen, acetonitrile, benzonitrile, propionitrile, ethyl isonitrile, methyl isonitrile, cyanogen-chloride, -bromide and -iodide, sodium-, potassium-, and copper-, ferro-, and ferri-cyanide. The last group of compounds does not become dangerous until it is acted upon, as with acid, in a manner to release hydrogen cyanide gas.

D 35. HAZARD OF GAS. This gas represents the main occupational hazard, and is used extensively as a grower's disinfectant and as a fumigant in factories, ships, buildings, apartments and residences to exterminate vermin and rodents. The gas may be produced accidentally in poisonous quantities by the burning of celluloid and nitrocellulose, as in X-ray and photographic films.

In general, wherever cyanogen compounds are made or used, the gas may occur. Such processes include the making or hardening of steel, iron, cutlery and machine parts; electroplating; metallurgy; tanning and dyeing.

D 36. CAUSES OF HYDROGEN CYANIDE POISONING. Hydrogen cyanide gas can enter the body through all channels, even through unbroken skin and membranes, but the most important entry is made by inhalation. Unfortunately, gas masks do not protect enough, as the skin is still exposed. Cyanide compounds are true protoplasmic poisons by reason that they kill the activity of all forms of living matter. They act as an asphyxiant, not by combining with the hemoglobin of the blood (as carbon monoxide does), but by attacking the cells of tissues, particularly along the respiratory tract so that oxidation within the body stops.

(To be continued)

Do you have any questions, theories or ideas concerning industrial health or safety? If you want to give them a good airing—send 'em along. We'll publish all space permits.

Push or Pull?

OCCUPATIONAL HAZARDS:

In keeping our safety rules in effect and to reduce occupational hazards for our warehouse employees, the following question has arisen. "Whether to push or pull a loaded 4 wheel flat-bed truck?" The flat bed trucks we use have the two swivel wheels on the handle end of the truck.

We would like to have, if there is any available, any information, statistics or safety rules regarding the correct method of transporting loaded 4 wheel trucks by manual labor.

We have maintained that by pushing these loaded trucks, thereby being able to use your shoulders for power, there would be less danger of straining muscles, or slipping and injuring yourself.

We will greatly appreciate any information you can supply.—Harry E. Stites, General Electric Company, Lamp. Dep't.

A good deal has been written on this subject, but we have found that the overall consensus of opinion favors that hand trucks should be pushed under most circumstances. Under certain conditions, however, such as steep ramps, sharp corners or other similar conditions it is thought that safe operation demands that the load should be pulled. In short, under favorable conditions—when the load is comparatively light and does not obscure the vision of the operator, the floor is in good condition and there is plenty of adequate light—a hand truck should be pushed.

Reversing Captions

OCCUPATIONAL HAZARDS:

I have received the September issue of my Occupational Hazards magazine and enjoyed reading it very much; however, on page 19 of this issue are not the first and second pictures reversed? I believe that the top picture should be "making dust count with the microprojector . . . ." and the lower "the calibrating room . . . ."

Also, I think you will find that the man in the picture, making a dust count with the microprojector, is preparing to make a dust count, instead. The proper procedure for making dust counts with this type of microprojector is to place the microscope, with the dust cell, in the microprojector beneath the screen.

I thought you might appreciate this error being called to your attention.—H. T. Herndon, Special Service Engineer, Texas Employers' Insurance Association.

Reader Herndon is 100% correct in his assumption that the pictures referred to were reversed. In fact this printer's error (we always try to blame our printer, bless him!) was called to our attention by no less than 43 readers. Only Herndon, however, mentioned the technical error of "making" vs. "preparing to make"!!

NAPOLEON and UNCLE ELBY
FLOORED AGAIN!
THEY FORGOT TO USE OIL-DRI -- IT MAKES FLOORS SKIDPROOF!
REDUCE FIRE HAZARDS, PREVENT COSTLY FALLS ON OILY DRIVEWAYS, FACTORY FLOORS, AISLES AND STEPS
Use
Oil-Dri
Reg. U.S. Pat. Off.
ABSORBS ALL TYPES OF OILS, GREASES AND FATS
Oil-Dri
ALL-PURPOSE
ABSORBS ALL TYPES OF OILS, GREASES AND FATS, PLUS WATER AND SOLUBLE OIL SOLUTIONS
IN EVERY state in the Union OIL-DRI and OIL-DRI-(All-Purpose) are used regularly by factories, breweries, food plants, repair shops, service stations and power plants to remove dangerous oil and grease accumulations and oil-and-water "slicks" from floors around equipment, on steps and in aisles. Their use greatly reduces the hazard of destructive fires and costly falling accidents.
Are Your Workers Slipping?
Write TODAY —
Our representative will make a free demonstration on your floors.
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. . . And Sudden Injury

A fellow worker tries to help this man as he lies pinned against a brick wall by 15,000 pounds of steel. The load shifted suddenly as he worked near it. Now in the hospital, he is recovering from multiple fractures of both legs. *(Acme photo)*

← AND SUDDEN INJURY

What happens to a man's legs when they get jammed between a brick wall and *fifteen thousand pounds* of crushing, sliding steel?

Under such circumstances something is going to give way and someone is going to suffer a lot of pain. It won't be the brick wall—that's for sure! In this instance (see picture to your left) the examining doctor described the victim's injuries as "multiple fractures of both legs." Perhaps if one looks at the manner in which he is clutching for support one can understand the pain concealed in the diagnosis, "multiple fractures of both legs." That's pain on his face, and it's pain that he had to fight back until his rescuers could knock a hole in the brick wall large enough to extract him.

This is, of course, another example of a needless accident. It takes a long time for a grown man to knit a single broken bone. Think of the time and money lost by this man—and his employer—as he lays on his back in a hospital room with both legs in casts waiting for many breaks to heal. The saddest part of the whole story is that this accident—as are 99% of all other accidents—could have been prevented had someone heeded basic safety principles. It is common, every day knowledge that care should be observed when materials are stored in any plant—regardless of what kind of materials or in what type of plant. Places for storage should be designated and only in such places should materials be stored. Such places should be separate from working areas. Only persons actually engaged in piling or unpiling of materials should be in these areas to lessen the chances of injuries to workmen engaged in regular production jobs. Care should be taken in storing material to insure that there is no danger of loads collapsing, falling or slipping. They should be properly cross-tied, piled, cradled, packed, chocked or blocked and arranged in accordance with type of material being stored. When there is danger of materials falling, stocks should be stepped back and the pile at least roped off from the regular workshop if more substantial barricades cannot be provided.

How, See'um New Gloves!

★4815 ASBESTOS GLOVES for perfect protection and longer wear. Have full finger leather reinforcement with tooth cut in back for free finger movement. Leather thumb seam strap.

ASK 'UM CHIEF HOT FOOT FOR FREE COPY OF NEW WHEELER CATALOG NO. G98. HE SAY, "FILL 'EM OUT COUPON—MAIL TODAY."

WHEELER PROTECTIVE APPAREL, Inc., 225 W. Huron St., Chicago 10, Ill. Manufacturers of Safety Clothing made from—Asbestos, Flame-Proofed Duck and Jean Cloth, Leather and Wool. Made for—Heat Hazards, and Rough Handling Hazards.

Please, Chief Hot Foot, send me a free copy of your new catalog G98. I am particularly interested in the following garments I have underlined: Aprons—Arm Protectors—Asbestos Firemen—Blankets—Clothing—Curtains—Gloves—Hand & Head Protectors—Leg & Foot Protectors—Mittens—Sleeves—Women's Wear.

(PLEASE PRINT)

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HOME OF ASBESTOS FIREMAN

Reduce fire and explosion hazards

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CENTRAL VACUUM CLEANING SYSTEM

Improves health conditions
Cuts cleaning costs

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Lint and Cotton
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Dust, dirt, sawdust
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EXIDUST RECLAIMS
Fuel and chemicals
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EXIDUST IS THOROUGH
Cleans whatever it touches. Average operator can clean 4000 to 5000 square feet per man hour. EXIDUST cuts cleaning costs 20% to 25%.

EFFICIENT . . . ECONOMICAL . . . EXHAUSTER has only one moving part. Made in various capacities and supplied with full range of cleaning tools.

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MAIL THIS COUPON TODAY!

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Please send me—free of charge—your Bulletin #D-4 on EXIDUST Vacuum Cleaning Systems.

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EXIDUST —Cleans Thoroughly Whatever It Touches

INDUSTRIAL
Accidents in the News . . .

These accidents are taken from the pages of the Nations Newspapers. They've all happened—they didn't have to!

Boston, Mass., Record:

Surgeons at the Massachusetts Eye and Ear Infirmary last night battled to save the life of an attractive 22-year-old Dracut girl, virtually scalped when her long auburn tresses became caught in a power belt at a Haverhill shoe plant.

Today, if her condition permits, a delicate skin grafting operation will be performed upon the girl victim, Esther Carrier, by Dr. V. H. Kazanjian, internationally famed plastic surgeon, and his assistant, Dr. Aram Roopenian.

Suffering from shock and loss of blood, the victim was on the danger list, but the doctors in attendance reported her condition as "satisfactory."

The Dracut girl suffered the agonizing mishap when, despite warning cries of fellow workers, she stooped beneath her work bench to retrieve a trinket which had fallen from her handbag. In a matter of seconds, her hair became entangled in the speeding shafting and she was flung screaming to the floor, her scalp severed from the nape of the neck to the forehead.

A number of fellow workers, both men and women, fainted at the sight of the scalped girl, as she lay in agony but completely conscious, awaiting aid. Other workers shut off the power and put in emergency calls for medical aid and a priest.

Dr. Paul Nettle raced to the scene in an ambulance from Hale Hospital, Haverhill. He gave the victim first aid and rushed her to the hospital.

Meanwhile, last rites of the Catholic Church were administered by Rev. Leo Dwyer of St. James Church, Haverhill.

From Hale Hospital, the girl was rushed over the road to the Eye and Ear Infirmary in accordance with telephone arrangements made by Dr. Nettle. Accompanying the girl victim in the ambulance which brought her to Boston was a Haverhill nurse, Barbara Marshall, who carried the severed scalp in a container.

Fellow workers of the girl at the Delbey Shoe Co. factory, where the accident occurred, were so unnerved that they were sent home and the plant closed for the remainder of the day.

Prevention:

Many newspaper articles reprinted in this section are condensed in order to make room for more items. The above article, however, was reprinted in its entirety because of the lesson in safety it teaches. The answer, of course, is the wearing of hair nets or turbans (easily available on the market) and proper training.

◆

Boston, Mass., Glove (eve.)

Alex Tomczak, of Auburn St., night watchman at the New England Coal and Coke Co suffered a fracture of the right leg early in the morning while making his rounds at the plant. Tomczak, who was removed to Massachusetts General Hospital, was found by Anthony Costa, burglar alarm system agent, who went to the plant when Tomczak failed to sound an automatic box on schedule.

Prevention:

This news item illustrates the valuable services gained through installation of automatic alarm systems. In this instance, had not the system been installed, the seriously injured man probably would not have been found until morning and the plant would have been without protection for many hours.

◆

Olean, New York, Times Herald:

Herbert Reilly, Kendall Refinery Company employe, suffered a severe gash in the middle finger of his right hand when he was accidentally struck by a sledge hammer swung by a fellow worker. Authorities at Kendall said Mr. Reilly was holding a stake being driven into the ground when the mishap occurred. He is now a patient in Bradford Hospital.

Prevention:

When it is necessary for a man to hold a stake, chisel or other tool that is being struck by a fellow worker with a sledge hammer, that stake, chisel or other tool should be held in place by some sort of holding device—*not by hand.* The holding device should be such that the helper's hands are kept clear of the sledge hammer at all times in case of a miss by the worker swinging the hammer. Such holding tools, adjustable to fit stakes, chisels, drills, etc., are available.

◆

Toledo, O., Blade:

Dwight Cox, 32, father of three, was crushed fatally this afternoon at the Dura Division of the Detroit Harvester Co. Mr. Cox, a grinder, was walking through a steel supply room when a pile of bundled steel sheets weighing several tons toppled over on him. Taken to St. Vincent's Hospital, he died as he was being wheeled into the emergency room.

Prevention:

Fundamental requirement of good plant housekeeping and resulting plant safety is the safe and sane stacking of materials. The safety engineer should make a study of special conditions — such as vibrations—in determining safe methods of piling stock. Where necessary, special bins, restraining strips or partitions should be erected to keep such stock safely stacked. Always avoid over-piling. The excessive weight resulting from such procedures not only threatens the plant structure, but nearly always creates a hazard which causes such accidents as that described above.

(Note: See "Sudden Injury" on Pages 34 and 35 of this issue for another case history of this type accident.)

From Page 30

notifying his immediate superior. By reason of claimant's refusal to accept medical attention, he was barred from receiving any compensation.

Stump vs. Norfolk Shipbuilding & Dry Dock Corporation, et al, Supreme Ct. of Appeals of Va., June 14, 1948

48 South Eastern Reporter, Second Series, Page 209

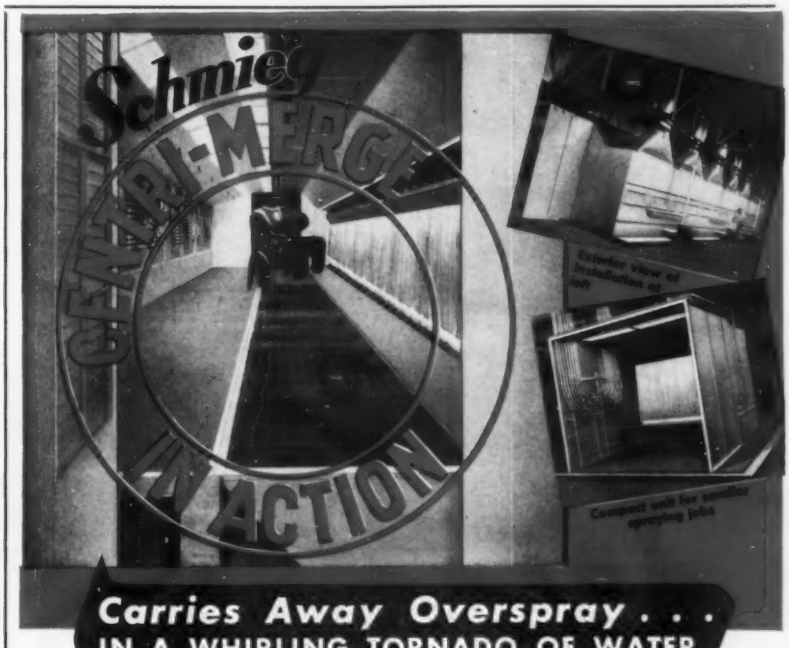
Cab Driver Found Injured In Cab

GEORGE McLean was employed as a taxi driver and on May 5, 1945, was severely injured as a result of an atrocious assault committed upon him. The principal question for decision is whether the injury arose out of and in the course of his employment. He worked on the night shift which commenced on 4:30 P.M. and ended at 3:00 A.M. He usually brought his cab back at the regular time. On the day in question, he left his home for work at approximately 4:45 P.M. At about 4:15 A.M., a telephone message was received at police headquarters from a resident of Windsor Street, Roxbury, to the effect that there was a commotion in a taxi cab at Windsor and Westminster Streets, and two police officers were immediately sent there in an automobile.

Arriving at Windsor Street at about 4:20, they found the cab which the employee had been driving parked near the curb with the motor and meter running. The employee was lying unconscious "with body partly in and out of the right door of the cab, his head resting on the other side, and covered with blood". Medical examination revealed that he had a brain tissue protruding from a perforation over his right ear, and that he had sustained multiple compound fractures of the skull and lacerations of the scalp and brain.

There was no partition between the front and rear seats of the cab. The injuries sustained by the employee were consistent with his having been struck from behind. A broken handle of a hammer was found "inside of the back of the car". Subsesuently the head of a hammer covered with blood was found in the possession of a small boy in the neighborhood. The head and the broken handle fitted together. The hammer was of a type used for knocking dents out of mudguards. No cash was taken from the employee. Although the motor of the cab was still running when the officers arrived on the scene, they did not shut it off because they did not want to touch any part of the cab until finger prints had been taken. At 4:30 the meter registered $1.80. When the motor was shut off at 5:00, the meter registered about $2 or $3. Employee was totally incapacitated for work, and since being in the hospital has never been able to give an account of what happened to him. Despite an extensive investigation by the police the identity of the employee's assailant has never been discovered.

Although to a considerable extent the events from which the employee's injuries resulted are shrouded in mystery, it was concluded that the employee was driving his cab in the course of employment. From the facts that when the police arrived on the scene the motor of the cab was running and the meter was in operation, it was not unreasonable to infer that shortly before he was assaulted he had had a passenger in the car. From the location of the wounds on the employee's head and the fact that the handle of the ham-



Carries Away Overspray . . .
IN A WHIRLING TORNADO OF WATER

PAINT-LADEN AIR IS "TORNADO" CLEANED. Operators, working in a Schmieg Centri-Merge Spray Booth, are adequately protected from fire and fumes. Overspray is carried on an air stream *horizontally* away from work into a curtain of water, pressure-fed through slots extending continuously full width of booth, that descends down the flood sheet. The mixture of fume and paint-laden air and water is then whirled under the flood sheet and hurled with tremendous impact against the impingement wall at back of booth. Down this impingement wall flows an additional sheet of water that floods the foreign matter, pounded out in the process, into the sludge tank below. Only CLEAN AIR passes through exhaust fan. Thus the danger of fire is suppressed both in front and behind the flood sheet. Because the ratio of water and air is far greater in Centri-Merge, paint and other gummy substances do not pile up on the hard-to-get-at walls of the chamber behind the flood sheet; therefore, cost of repeated cleanings is eliminated.

Consult Schmieg engineers regarding your problems of dust and fume control.

THE best AIR PURGE is CENTRI-MERGE

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mer was found in the back part of the cab, it could also have been inferred that he was assaulted by some one seated in the rear of the cab.

The employee was required to operate a cab late at night and transport without discrimination those seeking transportation. The injuries were received by reason of his employment where he came in contact with a risk that caused his injuries. From the record, it must be inferred that at the time of the accident, he was driving his cab and as a consequence, the accident occurred in the course of employment. The felonious assault of an employee is not to be interpreted as a natural risk of employment. The injuries received in this case were connected with the claimant's employment and flowed from that source as a natural consequence.

Claim allowed.

McLean's Case, Supreme Ct. of Jurisdiction, Ct. of Mass., Suffolk County, June 7, 1948

80 North Eastern Reporter, Second Series, Page 40

PROTECT THEIR HANDS AGAINST OIL AND GRIME

Prevent Time Loss

Supply workers with Du Pont PRO-TEK, the hand cream that acts like an invisible work glove. Rubbed on the hands and arms before starting work, it guards the skin against paint, grime, insoluble cutting oils, etc. Easily washed off with water when the job is done . . . it takes all the grime with it.

Ask your jobber. Or write E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

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REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING ...THROUGH CHEMISTRY

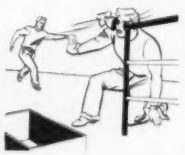
PRO-TEK
REG. U.S. PAT. OFF.
HAND PROTECTIVE CREAM

Injured Person Did Not Participate In "Horseplay"

BENFORD seeks to recover for loss of the vision in his right eye which was the result of an injury received on September 28, 1946, while in the employ of the Fort Mountain Lumber Company.

Benford was employed as a nailing machine operator and was on the day of the injury engaged in nailing "top back frames" or end sections of boxes which were being manufactured. Claimant was in the performance of his duties at the time of his injury and was leaning over to pick up laths when something hit him on the left side of the face causing him to strike his head and right eye against the guide rail. He was under the impression that someone had thrown something at him which had struck him in the face. Another employee claimed a boy operating a power saw located to the rear of the nailing machine as being the person who threw an object at the claimant.

The matter was reported to the superintendent and the boy was told that if he threw any further objects at the employees, he would be dismissed. The boy never returned to work following the accident.



The director hearing the case denied an award for compensation as the injuries, in his opinion, were not received in connection with the duties of claimant's employment or that of the person who threw an object at him. Court, however, concluded that in the absence of any proof that the object was thrown wilfully or maliciously by the boy, it was presumed that it was thrown without malice and in the spirit of fun or "horse play". There is nothing in the record to indicate that the injured participated in the horse play. Question arises whether an injury from horse play of a fellow employee which is caused or contributed to in part by the employment of the one injured where the injured employee does not participate in the horse play is compensable?

Cases have uniformly held that where the injured person participated in horse play, there is no responsibility on the part of the employer; but where an employee was mindful of his duties and is injured by the horse play of another employee, in which the injured employee did not participate, the injury arises out of the employment and

nothing more appearing is compensable.

Although there have been few cases determined involving this situation, Court came to the conclusion that the employee was entitled to compensation by reason of the fact that the work brought the claimant within the range of peril, by requiring his presence where injured.

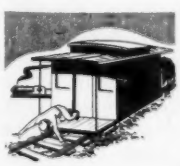
The environment of employment includes associations as well as conditions and that associations include the faults and derelictions of human beings as well as their virtues and obediences. Men do not discard their personal qualities when they go to work. As a consequence, in bringing men together, work brings these qualities together, causing frictions between them, creating occasions for lapses into carelessness, and for fun-making and emotional flare up. These expressions of human nature are incidents inseparable from working together and involve risks of injury and these risks are inherent in the working environment and as long as the victim is not a participant in horseplay, he is entitled to recovery.

American Mutual Liability Insurance Company, et al vs. Benford, Ct. of Appeals of Geo., April 15, 1948
47 South Eastern Reporter, Second Series, Page 673

Man Falls From Moving Caboose

CLAIMANT, the widow of the decedent, contends that at the time of her husband's injuries, he was riding on the rear platform of a caboose of an ore train; that the platform was not equipped with reasonable safety devices consisting of guardrails to prevent employees from falling or slipping off the platforms; and to substantiate her contention brought proof to indicate that since the accident the company installed such safety devices upon caboose cars of the kind which decedent was riding at the time he received his fatal injuries.

A claim is made for increase of compensation to the extent of 50% by reason of company's negligence in failing to provide proper safety devices as related above and by reason of the failure caused the death of the decedent. Company resists the claim of additional compensation on the theory that the statute requiring the use of specific devices, methods and processes to safeguard employees against injury or death did not contemplate the placing of guardrails around the platform of a caboose attached to a train of ore cars.

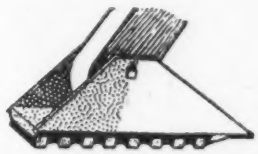


The New Mexico mining law specifically referring to section 67-2001 reads in part as follows: All fly wheels, gears, belts and all exposed moving machinery parts that are liable to cause injury or, dangerous parts of machinery used in and about a mine shall be appropriately guarded to prevent injuries to attendants or other persons. Stairs, platforms and dangerous walks in or about the mine shall be provided with rails, fences and gates.

Question arises as to whether the word "platform" as used in the statute above quoted included a platform of a caboose. The statute does not limit the word "platform" to any particular kind such as stationary ones; but it necessarily applies to any structure known as a platform in use in or about a mine which workmen must necessarily use in the perform-

IT WARNS you that rubber slips on wet surfaces.

This is just as true of a Ladder Shoe as it is of a tire, if it has only rubber in the tread.



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SAFE-HI Ladder Shoe treads have cord, as well as rubber, in contact with your floor . . because cord holds on wet surfaces.

SAFE-HI Ladder Shoes have a spike which will never be dull, because it is self-sharpening.

It is made with a thin, tempered tool steel center, welded between supporting walls of softer metal which wear down first, leaving the hardened core sticking out . . . always sharp.

No cost for inspection or sharpening. Never a hazard because of dull spikes . . . another exclusive SAFE-HI feature.

Safe-Hi PRODUCTS

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ance of their labors. Certainly the platform of a caboose without guard rails attached to a moving train is a much more dangerous place to be or work than is a stationary one. It would be an unreasonable construction of this statute to say that the word "platform" should not include the platform in question.

The company's contention is, therefore, rejected and an award of 50% was ordered.

Thwaites vs. Kennecott Corporation, Shino Div. Supreme Ct. of New Mexico, April 14, 1948
192 Pacific Reporter, Second Series, Page 553

Dermatitis Blamed To Cut

RAYMOND K. Evans was employed at the Pittsburgh Plate Glass Company, in the paint factory, where it was his duty to mix paints, chemicals and other substances necessary to the manufacture of paint. He was employed on September 8, 1940, and worked for the company until June 14, 1941, at which time he voluntarily left their employment by the consent of all parties and upon the advice of a physician, and began employment with a construction company and worked for them until September 30, 1941. He was then employed as a worker for the Douglas Aircraft Company for approximately 2 years, until April 28, 1944, at which time he quit work for them and went to work for the Hart Industrial Supply Co. of Oklahoma City.

At the time he left the Pittsburgh Plate Glass Company in 1941, he quit work to determine if a certain breaking out on his hands was caused by contact with the paint and chemicals in the plant of the company. Upon quitting, he went to Mayo's and was treated for dermatitis.

It is the claimant's contention that on or about October 5, 1940, he cut his hands while working with glass in the factory and that these cut places became infected and that the dermatitis resulted therefrom. There is no question that dermatitis was the cause of disability claimed. The disease also broke out on the legs and other parts of the body. There seemed to be hopeless conflict in the medical testimony as to the cause of the dermatitis from which claimant was suffering. Although claimant states that he cut his hand on or about October 5, 1940, no medical expert witness testified that the cut on the hand in any way caused the breaking out or infection now denominated as dermatitis. Claimant's own medical expert stated specifically that the cut on the hand would not cause infection.

The claim in the instant case was not filed until June 7, 1943. The Court concluded that there was no proof that the claimant sustained an accidental injury in the course of his employment. In view of the medical testimony further that dermatitis caused by exposure of hands of an employee to paint, chemicals and other substances is not a "compensable accidental injury arising out of and in the course of employment"; further that the claimant not having filed his claim within one year as required by the statutes on compensation for occupational diseases, the claim of necessity would have to be disallowed.

In the instant situation the exposure to the substances complained of was known to the claimant for approximately three years before the claim was filed.

Claim disallowed.

Pittsburgh Plate Glass Co. vs. State Industrial Comm., Supreme Ct. of Oklahoma, April 27, 1948
192 Pacific Reporter, Second Series, Page 1015

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California

Compulsory cash sickness benefits in California began in December 1946, after employee taxes had gone into the state sickness fund for six months to create the initial reserve. At the present time benefits have been paid for about eighteen months. So far, the financial record of the California program has differed markedly from that of Rhode Island. To date, California tax collections have constantly exceeded benefit payments, and the state fund is rapidly growing. Indeed, collections have been outrunning costs by more than 2 to 1.

The 1947 legislature authorized an increase in benefits for both unemployment and disability insurance to commence January 1, 1948. Maximum benefits for both programs were raised from $20 to $25 a week, and maximum duration extended to 26 weeks; in addition, days as well as full weeks of disability became compensable. Nonetheless, disability payments continue below collections.

In part this is because covered workers are still in the process of becoming familiar with the program; as more of them learn about it, payments may be expected to rise. Another factor is the exclusion in the California Disability Insurance Acts of benefits for pregnancy, or in duplication with workmen's compensation. In other respects, the California claim experience parallels that of Rhode Island. As might be expected, women draw relatively more benefits than men, and for both sexes claims are higher among older age groups.

Before May 1946, California had collected a total of $300,000,000 in employee taxes for unemployment compensation. Of this amount, some $104,000,000 are immediately available for transfer to the disability insurance fund. However, to date only $200,000, a token amount, has been transferred, and apparently there is no intention to transfer any more in the near future.

At the same time, there has been a marked growth of voluntary plans. By law, benefits under voluntary plans must exceed those from the state plan, and this is done in a variety of ways. Among them are such features as substantially higher weekly benefits, shorter waiting periods, and benefits for types of disability not compensable under the state plan such as pregnancy. At the end of March 1948, there were 9,782 approved voluntary plans, covering 717,317 workers, or about one-third of the total covered labor force.

With the financial record of the state program, pressure may be expected for a further rise in benefits. If adopted, it may become increasingly difficult for voluntary plans to compete. One proposal being seriously considered, which would not have a direct adverse effect on voluntary plans, is that the excess of current state tax collections over benefits be used to build hospitals. In any case, the disability insurance program in California merits close study.

New Jersey

On May 14, 1948, the New Jersey state legislature, just before recess, passed a bill sponsored by the Governor's administration to establish a compulsory sickness compensation program. In this state, employee contributions to unemployment reserves amount to some $220,000,000. The continuation of the tax on employees and the existence of the huge amount of previous taxes have proved major factors in the adoption of sickness legislation.

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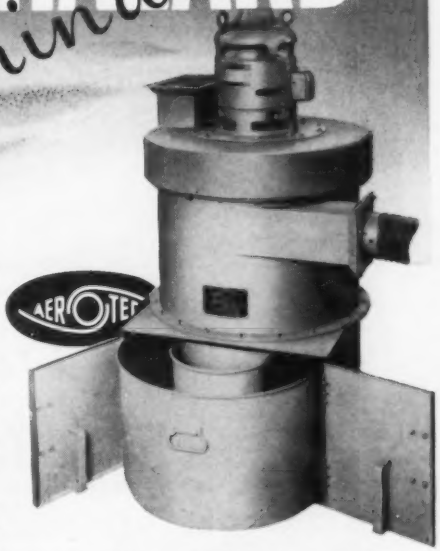

Let's throw out the old theory of industrial dust being a "necessary evil," about which nothing can be done, and get down to brass tacks.

The majority of industrial dusts are confined to the finer types. These not only create an annoying atmosphere for employees, but in many cases are a definite health hazard to those exposed. Prevention of fine dust concentration in atmosphere, has heretofore been confined to the use of impingment type filters which, in the case of grinding or buffing operations, quickly clogged and were rendered ineffective. The only answer was a constant pressure drop unit that would require a minimum maintenance.

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The program to be set up is similar to that in California, with some variation in taxing provisions described below. As in California, optional voluntary plans will be permitted. A compromise measure was adopted out of the eight cash sickness bills introduced. Two bills had called for a monopolistic state fund as in Rhode Island, and two for a compulsory system of benefits under which employers would be compelled to furnish sickness protection through insurance or self-insurance, but without a state fund.

Taxes: The 1 percent tax on employees will continue, with ¾ of 1 percent to go to the state cash sickness fund, and ¼ of 1 percent to continue going to unemployment reserves. In addition, a new tax of ¼ of 1 percent of taxable payroll is to be levied on employers, making a total of 1 percent to finance sickness benefits.

Benefits and Coverage: Identical with unemployment compensation, with weekly benefits ranging from $9 to $22 for as long as 26 weeks, after a one-week waiting period. All firms with four or more employees are covered. No benefits will be payable for pregnancy or in duplication with workmen's compensation. Benefits will commence January 1, 1949.

State Sickness Fund: The sum of $50,000,000 will be transferred from the unemployment compensation to the state sickness fund to finance the initial costs of the program. This will leave some $170,000,000 potentially available.

Optional Voluntary Plans: Employers with the consent of their employees will be permitted to adopt alternative voluntary plans through insurance or self-insurance, provided that benefits equal those of the state plan.

New York

A total of 24 cash sickness and 2 compulsory health services bills were introduced in the 1948 session. In addition, two bills called for a commission to study a compulsory sickness compensation program. All bills died in committee, and no hearings were held. The bills may be described briefly as follows:

4 cash sickness, with a new tax on employers and/or employees and a monopolistic state sickness fund;

8 cash benefits, calling for benefits to be paid directly from unemployment funds with no new tax;

11 cash sickness, for continuation of unemployment benefits to claimants who become ill after applying for unemployment compensation;

1 pregnancy unemployment, calling for the payment of unemployment benefits to female workers absent from work on account of pregnancy; and

2 compulsory health services, calling for new taxes on both employers and employees, to provide medical and hospital services for insured workers and their dependents.

Massachusetts

As compared with other states, unemployment reserve funds in Massachusetts are at a relatively low level. Nevertheless, partly due to active labor support, there is considerable agitation for a cash sickness program. Ten bills were introduced for this purpose during the 1948 session. Hearings were held on March 11, and the unfavorable reports of the committee were accepted by both houses of the legislature. The bills are as follows:

4 cash sickness, calling for benefits to be paid from unemployment funds with no new tax;

3 cash sickness, calling for new taxes on workers and/or employers with a monopolistic state fund;

1 cash sickness, calling for a new tax and a state fund, but permitting alternative voluntary plans; and

2 cash sickness, without a state fund but requiring employers to furnish sickness protection through insurance or self-insurance, and permitting them to charge employees up to ½ of 1 percent of wages.

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WELDING FIRES
From Page 26

circumstances should you use oxygen to ventilate or "sweeten up" the air. In an oxygen enriched atmosphere for example a small spark can ignite a piece of cloth and turn it into a furiously burning flare.

All of the equipment, particularly the hose and torches, should be tested for leaks before using them in confined spaces. Oxygen and acetylene cylinders should be left outside. Whenever work is stopped, all oxy-acetylene apparatus and hose should be removed from the confined spaces if at all practicable. If it is not feasible to remove the equipment, the cylinder valves should be closed tight. There are cases of accidents occurring where it was suspected that gases leaked from the hose or equipment into the confined space during a temporary halt in the work.

Although accidents when welding or cutting on containers are not very common, unfortunately they are frequently quite severe. In practically all cases they are due to failure to take proper measures in purging previous contents from the vessel being worked on. The American Welding Society has published a booklet called "Welding or Cutting on Certain Types of Containers Which Have Held Combustibles". It gives specific instructions for cleaning, purging and handling containers. It should always be followed when doing this type of work. Copies can be obtained for 25 cents each by writing to the society at 33 West 39th Street, New York 18, N. Y.

In the shop or on a field job welding equipment should be cared for in the best manner possible. First of all, manufacturers' instructions and recommendations on the proper usage of apparatus should be followed. Equipment should always be installed and operated in strict accordance with the standards of the National Board of Fire Underwriters as contained in their pamphlet No. 51. Copies of this are obtainable by writing them at 85 John Street, New York 7, N. Y.

Practically every fire started through a welding or cutting operation could have been prevented. Almost invariably such fires occur through carelessness or ignorance on the part of the people doing or responsible for the work. The time necessary to determine the correct measures to be taken for any given situation plus the time needed to take the necessary precautions can never be as costly as a single fire loss that such action will prevent.

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CARTOONS WIN FRIENDS
From Page 15

in the aisles, got him caught in machines, run down by delivery trucks because he ignored traffic signs. All in all, he went to the hospital at least once a week.

The next step was to get him to take the message home to the family. So we added Ella, his sharp-tongued better half who always bawled him out for his mistakes; Little Hopeful, who Ella always said she hoped would not grow up to be as dumb as his father; and Fleacy, the talking dog.

When Hector caught on, we began to use him as a positive factor in safety campaigns. The strip was once used to open a six-weeks' special drive on safety in one plant. It was announced that the entire Hector family would visit the plant in person. Sure enough they did, on the day the drive opened, in the person of several professional actors. They were welcomed by plant and union officials, spent several hours with the workers themselves. By the end of the day they had brought the strip to life, personified safety to thousands of people, and started the campaign off with a bang.

During the war, in addition to bond drives and increased production, Hopeless Hector staged an effective campaign to get girl workers to wear coveralls. Hector conducted a "Cover-All Girl Contest", with the prize to the most popular one being a free trip to Schenectady and appearance on a television broadcast.

Serious Cartoons

But the years with Hector have shown that comic are not the only way cartoons can be used effectively. The serious, editorial type of illustration is also a powerful safety medium. Here, single graphic ideas can be summarized. These can be used to show objectives, such as those shown in the "Bulls Eye" Cartoons, or to pat some worker on the back, or serve as a link in the campaign to show the worker the importance of his job. One of these recently put across the idea that each worker in industry today has several thousand dollars worth of tools behind him.

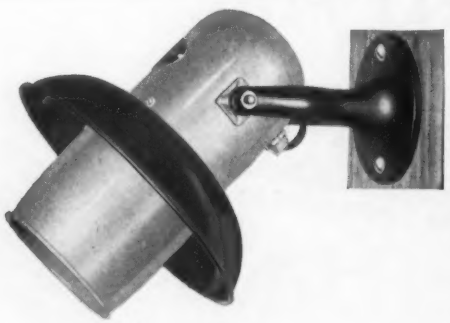
Editorial cartoon ideas are often suggested by safety officials, editorials themselves, safety articles and the workers themselves. Whenever this happens, we always try to use the idea, although it may not be especially original. It's just plain courtesy to show that the worker is thinking along safety lines as well as the safety inspector. In these cases also, a thank you line is always used, which of course pleases the worker and his friends.

Unashamedly, we follow the style of the greatest cartoon editorial team in history in these serious cartoons. Windsor McKay used to draw history-making illustrations, and Arthur Brisbane wrote editorials to accompany them. We carry a short editorial beneath the picture that does not explain but augments it.

This is effective because ideas which would complicate or crowd the cartoon can be considered. Also, the few words of comment tend to drive the main idea home with a final punch.

At various times, of course, questions have arisen as to Hector's effectiveness and how many people read him. The most satisfactory answer has always been obtained by stopping employees in the halls or factories and asking them, "Who is Hopeless Hector", or "What is the name of the comic strip featured in the Works News"? In practically all cases the answers showed that the strip was read, but plenty.

But any campaign, no matter what



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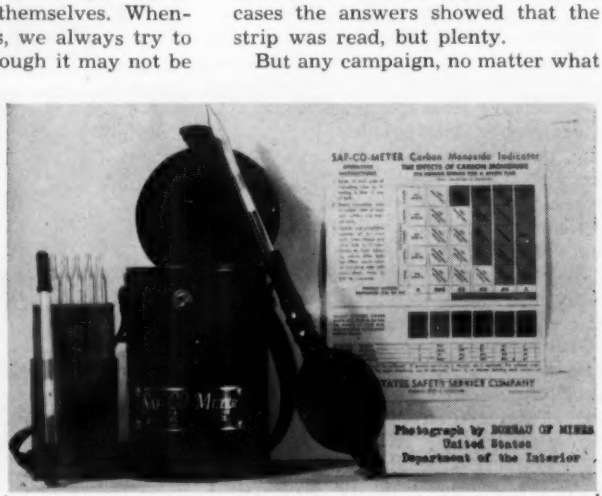

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kind, must be judged by the results it produces. Hector, Ella, Little Hopeful and Fleacy have been of definite assistance in putting across campaigns and single ideas. Their greatest value, though, has been in making employees more safety conscious, calling attention to hazards and conditions that were difficult to approach by different methods.

The industrial safety problem has changed widely in the past 20 years. Mechanical guarding and elimination of hazards is now accepted. The problem today is in educating the employee to think in terms of safety. Mechanical ingenuity cannot win the fight for safety alone, but needs the constant cooperation of the worker himself. We do not yet have all the answers along this line, of course, but the effective use of cartoons has been shown to be an important aid in reaching them.

SAFE BLASTING OPERATIONS
From Page 18

Trucks should be equipped with not less than 2 fire extinguishers, placed at convenient points, filled and ready for use and of a make approved by the National Board of Fire Underwriters. These extinguishers should be regularly inspected and correctly maintained according to the manufacturers' directions.

Explosives should not be transported during hours of darkness. The gasoline tank of the motor truck should not be filled while explosives are on the truck except in emergency and then only when the engine is stopped. Explosives unloaded from trucks should be piled at sufficient distance from any engine exhaust to prevent danger of sparks igniting the explosives. Persons employed in the transportation and handling of explosives should not carry on their person or in the truck, matches, firearms, ammunition or other flame or spark producing devices. No spark producing tools should be used to unload explosives.

Handling

Containers of explosives should be opened only by means of wooden wedges and wooden mallets. Dynamite cartridges should be removed from containers only as they are needed for immediate use.

Detonators and other explosives should be taken to the blasting area in their original containers or in separate non-metallic containers. After loading of a blast is completed, all excess detonators and other explosives should be returned at once to their separate storage magazines.

All empty boxes, cartons, case linings, cartridge papers and other waste products and packing from explosives showing stains of any kind should be destroyed by burning out of doors at a safe distance from magazine and other structures.

Drilling

All holes should be of greater diameter than the diameter of the cartridges of explosives used. An important rule to remember is that loading and drilling should not be carried out at the same time in the same area. Never insert a drill, pick, or bore in butts of old holes even if examination fails to disclose explosives.

Drilling should not be resumed after blasts have been fired until a thorough examination has been made to make sure that there are no unexploded charges which the drills may strike.

Loading

In loading small bore holes, tamping should be done with a wooden stick having no exposed metal parts and primed cartridges should be

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seated by even steady pressure only. All loaded holes or charges should be checked and definitely located before firing.

When holes are sprung, ample time should be left between springing shots for the hole to cool, and also between the last springing shot and the loading of the main charge. When practicable no more cartridges should be primed than are required for a single round of blasting. It is most often safest to prime cartridges by inserting detonators in a hole in the end of a cartridge, such holes being made with a sharpened wooden stick.

Wiring

All electric caps in a blast should be of the same manufacture and each cap should be tested with an approved galvanometer before and after tamping a hole to determine whether they will carry the current.

Unless the power supply is heavy, it is recommended that all electric blasting caps be wired in series and the firing line be no smaller than No. 14 B and S gauge copper wire and the number of electric blasting caps fired in one series should not exceed the rated capacity of the blasting machine.

The circuit, including all electric caps, should be tested with a circuit tester or galvanometer that is known to be operating accurately, before being connected to the firing line. No blasting circuit should be connected to a source of power until just before the shot is to be fired.

Cartridges should not be primed nor holes loaded during the approach of a thunderstorm or while it is in progress. If a charge has been primed or holes loaded, every person should be ordered to a safe distance until the storm is over.

Blasting circuit wires should never touch or cross any other wires carrying electric current.

Firing

Prior to the firing of a shot, all persons in the blasting area should be warned of the blast and ordered to a safe distance from the area. Appointed individuals, equipped with red flags should be assigned to stop traffic on each possible route of travel in the vicinity of the blast and blasts should not be fired until it is absolutely certain that every person has retreated to a safe distance.

The person in charge of blasting should be the last one to leave the area to be blasted and the signal to fire should be given only by that person.

Inspection After Blasting

Immediately after a blast has been fired, the firing line should be disconnected from the blasting machine or other source of power and short circuited and a careful inspection should be made to determine if all charges have been exploded.

Wires should be carefully traced and search made for any unexploded cartridges by the man in charge of the blasting operation.

In case of misfires of any holes, a careful inspection should be made of burdens remaining on such holes and no attempt should be made to fire such a hole when the burden has been dangerously weakened by other shots.

A List of "Don'ts"

The following rules are suggested by the Association:

1. Don't store blasting caps, electric blasting caps or other high explosives in a residence, or boarding house, or leave them around where children can get at them.
2. Don't smoke or carry loose matches in your pockets when handling explosives.
3. Don't store explosives in or near a blacksmith shop or in the vicinity of welding or burning operations.

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Detergents

4. Don't throw packages of explosives or handle them roughly in any manner.
5. Don't force a cartridge of high explosives, especially a primer, into a borehole.
6. Don't leave packages of explosives or blasting caps uncovered.
7. Don't hurry in seeking an explanation for the failure of a charge to explode.
8. Don't drill, bore or pick out a charge which has failed to explode. Instead, drill and charge another bore hole at a safe distance from the missed one.
9. Don't attempt to remove or investigate the contents of a blasting cap.
10. Don't carry blasting caps in pockets of clothing.
11. Don't try to withdraw the wires from an electric blasting cap.
12. Don't use empty dynamite boxes for kindling.
13. Don't keep electric blasting caps, blasting machines or blasting caps in a damp place.
14. Don't drag the leading wires around.
15. Don't operate blasting machines half-heartedly. They are built to be operated with full force.

In addition, the Institute of Makers of Explosives recommends:
16. Don't purchase, possess, store, transport, handle or use explosives except in strict accordance with organizational, local, state and federal regulations.
17. Don't attempt to reclaim or use fuses, blasting caps, electric blasting caps or any other explosives that have been water soaked, even if they have dried out. Consult the manufacturer.
18. Don't load a sprung bore hole with another charge of explosives until it has cooled sufficiently.
19. Don't return to the face until the smoke and fumes from the blast have been dissipated.
20. Don't store cases of dynamite so that the cartridges stand on end.
21. Don't use black blasting powder or pellet powder with permissible explosives or dynamite, nor dynamite with permissible explosives in the same bore hole in a coal mine.
22. Don't handle explosives during the approach or progress of an electrical storm. All persons should retire to a place of safety.
23. Don't allow electrical connections to come in contact with other connections, bare wire, rails, pipes, the ground or other possible sources of current or paths of leakage.

The publication, "Your Guide to Safety When Blasting," is available to members of the Association of Casualty and Surety Companies.

LITERATURE FEATURED IN ADVERTISEMENTS THIS MONTH

Page 6—**STONEHOUSE SIGNS** *electrical hazard signs*

Page 10—**WEST DISINFECTING** *protective creams chart*

Page 11—**CHICAGO EYE SHIELD** *industrial protective equipment*

Page 19—**UNIVIS LENS CO.** *booklet on eye protection*

Page 35—**LAMSON CORPORATION** *vacuum cleaning systems*

Page 40—**STANDARD INDUSTRIAL PRODUCTS** *sipco safe smoker*

Page 46—**TARBONIS COMPANY** *overcoming skin irritants*

Page 48—**NOLAN COMPANY** *safety while opening car doors*

Page 48—**OLYMPIC GLOVE CO.** *safety work gloves*

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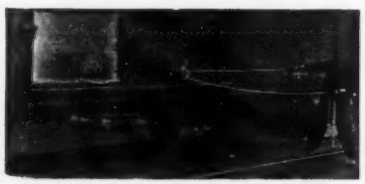

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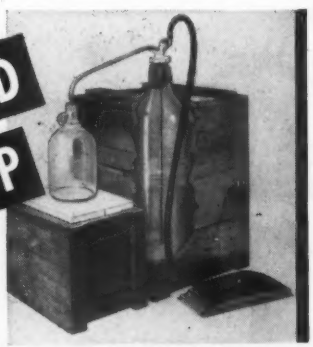

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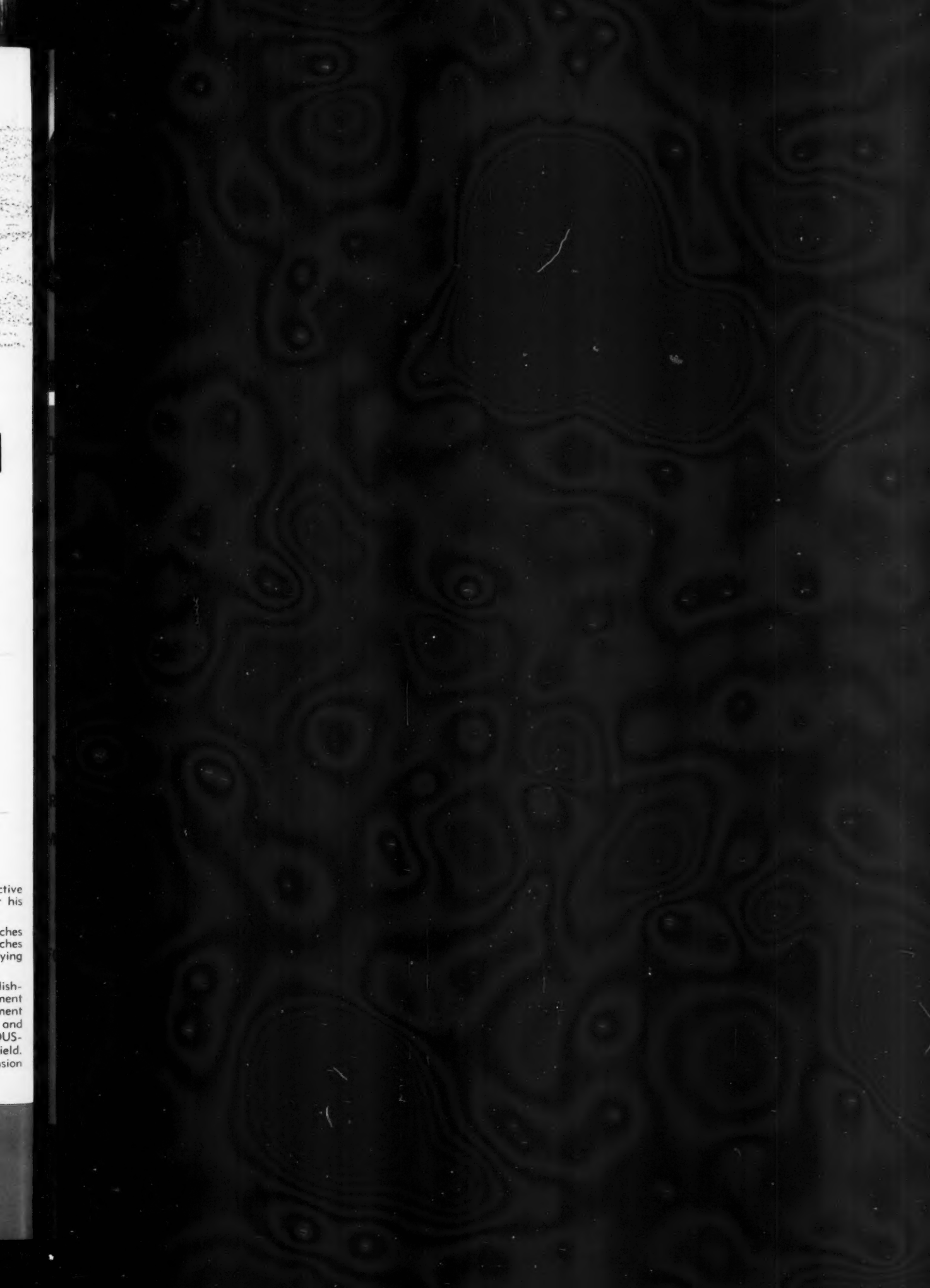
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